GRAPEGROWING • WINEMAKING • MARKETING
MARCH / APRIL 1992

PRACTICAL WINERY & VINEYARD

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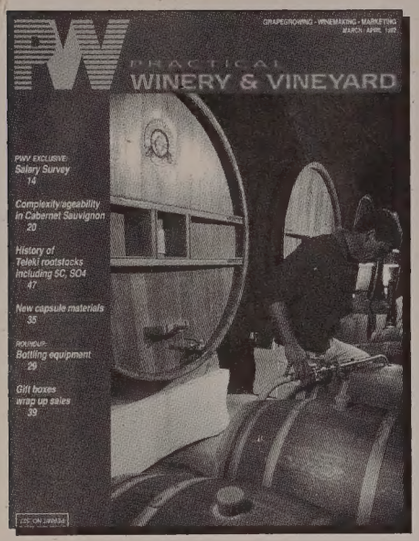

In the cover picture, note the large French oak foudres. They are built in the traditional method by Tonnellerie Seguin Moreau and are more commonly described in America as 'ovals.' A foudre is made in the same way as a barrel; the staves are quarter-sawn rather than split. The thickness of the staves is approximately two inches. The wood must be matured in the open air for several years. Later, after having been taped and assembled, the shell is shaped over an open fire for 6 to 8 hours, to achieve the desired toast level. Due to the high quality of wood and highly-skilled labor required, a foudre is a very expensive investment.

In Burgundy and Champagne, foudres are still in use. Chardonnay and Pinot Noir are matured and aged for long periods of time without absorbing any astringent qualities from the wood. Ten 1,600-gallon foudres are in use at Piper Sonoma Cellars, Windsor, CA. The wood is a blend of oak from the forests of central France and Argonne. Presently, Piper Sonoma is barrel-fermenting and ageing a portion of their wines in Champagne barrels (205 liters). In addition, the foudres are used for ageing reserve wine. The wine develops complexity and elegance through barrel ageing. In Champagne, very few Champagne houses still use this method. Two of the most well-known are Krug and Roederer.

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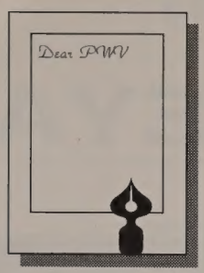


Dear *PWV*:

In case you don't already know it, I'll tell you true: Jake Lorenzo is one of the best damn things in ***PWV***. Not to belittle the rest of the writers or staff, for it's all fine and good to look closer at the business end of our industry, for the mind to dwell on marketing trends and state-of-the-art this and that, etc. Ad nausem, but matters of the gut and heart are vastly more important, dare I say vital.

I drink and I don't apologize for it, and I bet Jake Lorenzo would put an "I Drink" bumpersticker on his car and wear it proudly. I like this. I think I would like Jake Lorenzo.

You tell him for me: when I get my bond, I'll sure as hell return his wine cellar questionnaire. There will be no tequila, precious little Chardonnay and Cabernet, but lots to appreciate. In my gut and in my heart, not in my bank account.

Sincerely,
Richard Reeves
Lake County, CA

Dear *PWV*:

I have received the January/February'92-***PWV*** and couldn't be more delighted. Patrick Leon of Mouton-Rothschild was also very pleased. It is very encouraging to see such an accurate and well-written article "Gentle grape handling at Opus One". Keep up the good work and many thanks!

Sincerely,
Alisa J. Hixson, Opus One

Dear *PWV*:

Your article on winery and vineyard financing in the Jan/Feb'92-***PWV*** provided balanced and no-nonsense information on a subject important to your readers. With all of the misinformation and sensationalism currently being printed on the so-called "impending financial disaster in the wine industry," your article put winery and vineyard financing in proper perspective. There is not a lot of room for mistakes in this business. However, when borrower and lender know what they are doing, a successful business can be built. Keep up the good work!

Sincerely,
Perry Teaff, Napa National Bank
Napa, CA

Dear *PWV*:

BRAVO! I thoroughly enjoyed reading Jake Lorenzo's insightful and irreverent poke at the ***Wine Spectator*** and the idea of "Everyman's $10,000 Cellar." With $10,000, a monkey could put together a fantastic cellar, in fact, I'm not sure it wouldn't be better than some they featured.

I've dropped my subscription to ***WS*** more than once and when I've renewed, it's not long before I'm not quite sure why I did. But I do know why I subscribe to ***PWV***— for the intelligent, serious, and occasionally humorous articles on wine. ***WS*** may look nice on the coffe table but it eventually gets thrown out. ***PWV*** doesn't (get thrown out, that is!) Keep up the good work and good articles.

Sincerely,
John Hardman
Westminster, CA

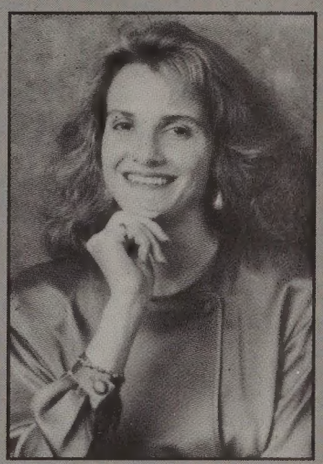
Dear Jake:

We are very happy to know that you would include our Preston Vineyards Zinfandel in your "Quixotic $1,000 Wine Cellar," and while we are glad you assume that it's goodness extends to our character, we are disappointed that you had to reach that conclusion through assumption. What we mean to say is — find yourself up here some Friday afternoon and we'll throw a few rounds of Bocce, dispose of some of our prodigious olive harvest, and drink some Barbera too (it's the officially sanctioned drink on the Bocce courts).

We always look forward to your essays. They are not only witty and humorous, but also insightful and generally right-on. The point you make in your most recent article is especially important. Despite all of the lamentations over bland products and faceless corporations, very few people realize that they have the power — and few who do will go to the trouble — to affect the nature of the businesses they deal with.

Sincerely,
Kevin Hamel
Preston Vineyards & Winery
Healdsburg, CA

mancuso
a wine broker



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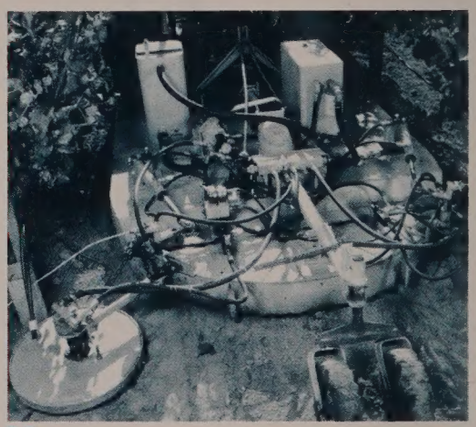

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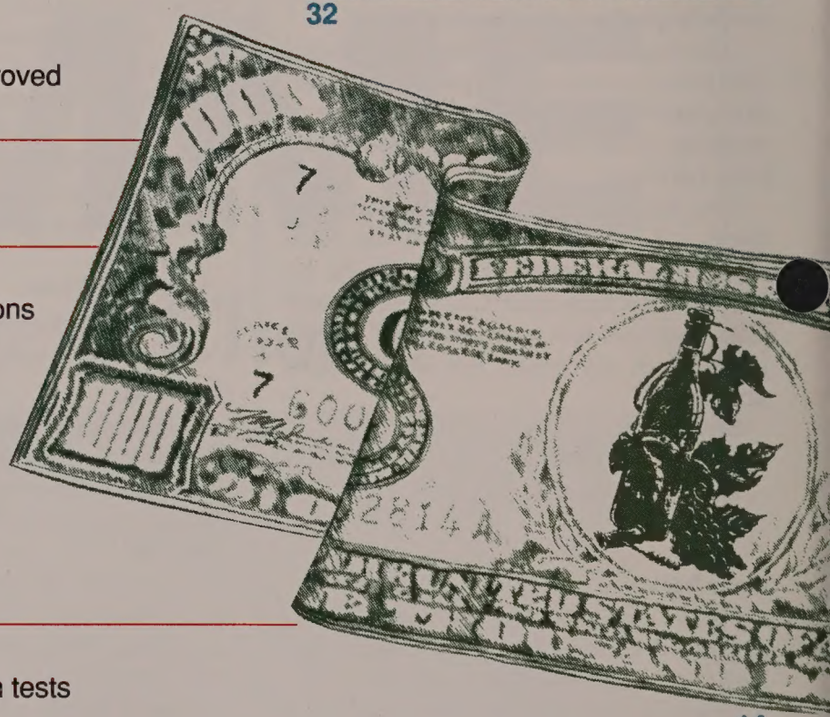

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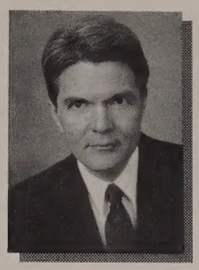


R. Corbin Houchins

Updates on small-producer credit and grape contracts, plus a churlish word on distributor terminations

Corrections to the Tax Law

As noted in an earlier column (**PWV** Jan/Feb-1991), the 1990 law that raised the gallonage tax and created the domestic small-producer credit appeared to make bonded wine warehouses eligible for full credit on the first 100,000 gallons withdrawn, regardless of the size of the producing winery.

The Treasury Department was so opposed to that result that it adopted an interpretation of the law, not very well-founded in the statutory language, that denied the deduction to many industry members Congress obviously had intended to benefit. Except for a one-time compensation that is no longer relevant, the Bureau of Alcohol, Tobacco & Firearms (BATF) steadfastly refused to alter its position, insisting that the only remedy was an amendment to the statute by Congress.

At press time, the House of Representatives had before it HR 1555, a bill which makes technical corrections to a number of tax laws, including the wine gallonage tax. As described in the House summary:

"The bill clarifies that wine produced by eligible small wineries may be transferred without payment of tax to bonded warehouses that become liable for payment of the wine excise tax without losing credit eligibility. In such cases, the bonded warehouse will be eligible for the credit to the same extent as the producer otherwise would have been."

Another vexing interpretation by the BATF was that the face amounts of tax bonds must be based on theoretical, rather than real-world, tax liability. The technical correction also 'clarifies' the BATF's power to use the amount of tax actually expected to be paid.

Unfortunately, the bill does not deal with a major cloud hanging over the credit. The dispute resolution function of the General Agreement on Tariff's and Trade (GATT) is expected to rule in the near future on a complaint that the tax structure amounts to a subsidy of domestic wineries that is not available to our trading partners. At the moment, it seems likely that the ruling will require further amendment to the gallonage tax law in order to prevent the credit from being declared void (possibly leaving the increased rate intact).

Toward subtler grape criteria

As winemakers' ideas of the kind of fruit they want to work with evolve, it would be logical for grape purchase agreements to change with them.

To a large extent, the language in grape contracts has not kept pace with changes in what the purchasers actually want. One difficulty, of course, is that some criteria are more difficult to measure than those we (and state inspectors) are used to working with. Physical maturity, for example, is not something you can read with a refractometer or easily quantify into an increase or decrease in purchase price.

Wineries should use contracts that will get them the characteristics they deem important, and growers should use contracts that promise accurately what they intend to commit themselves to deliver. There are well-tested ways for contracts to deal with elusive criteria. Three categories of methods are commonly used, with varying suitability to the task:

1) Description of the standards so that the conformity or nonconformity of the goods is determinable by the terms of the contract itself;

2) Reference to an outside standard, such as rating bureau specifications or the opinion of a third-party expert; and

3) Further negotiation by the parties, with some restriction on absolute freedom to prevent a deal.

Selecting the method for stating the criteria and refining the language are lawyer's work. To get the best from your legal adviser, you must be able to articulate your objectives in the transaction.

Although no single form is right for all grower-winery relationships, it may be useful to comment on the three foregoing approaches, if only to start the process of preparing to confer with your lawyer. Please note that the examples below are only for illustration. Do not incorporate them in an agreement without the advice of your legal adviser, who will no doubt have his or her own favorite phrases.

Description carries the highest demand for getting the contract language right in the first place, and rewards the successful draftsperson with the most readily and economically enforced form of agreement.

Objective criteria such as sugar and acid levels, and, to a lesser extent, weight of material other than grapes, long have been quantified in standard agreements. (One rarely sees strength of acid specified in an agreement, but it is, of course, easy to quantify as pH.)

Somewhat less objective are descriptions such as 'free of mold and rot.' How free is free? More subjective still are familiar terms like 'sound,' 'whole,' and 'mature.'

Note that even with quantification, some method of preventing a dispute over accuracy of numbers is necessary. Where appropriate, you can let a third party's (e.g., the ag inspector's) measurement control. Naturally, if you can obtain agreement to it, your own good faith measurement is the best determination. Indeed, the whole subject area of describing standards virtually goes away if you can negotiate something like "mature in the opinion of the buyer, whose good faith judgment shall be final."

Physical maturity has gained in importance to many wineries of late, especially for varieties which develop desirable flavor components at unpredictable levels of sugar. In case of a dispute over acceptance of a load of grapes or the correct adjusted purchase price, the bare word 'mature' would not be highly useful.

The draftsperson has to get at what the client is really after, probably by specifying the physical changes that are to have occurred (or stopped occurring) after a certain minimum sugar has been attained. If the concern is getting the grapes as soon as they are physically mature, then an objective time standard can be added: "picked within 24 hours of first becoming physically mature as herein defined."

Reference can come to the aid of description, and in practice the two categories shade into one another. For commodities whose evaluation is less exacting than premium varietal grapes, merely referring to

prevailing practice can attain the goal of predictable results: "widgets that pass in the trade as commercial grade." If there are more specific standards, such as "#1 widgets," so much the better.

Even though there is no commonly accepted grading system for wine grapes, reference to commercial standards can help. Given the difficulty of translating the morphology of mature grapes into rules for determining maturity when the load arrives, a supplemental reference such as "and accepted in the premium varietal wine grape trade as physically mature" can mitigate the effects of drafting errors that might otherwise require acceptance of fruit that meets the literal tests in the contract but not the winemaker's needs.

More complex references may be to the opinions of third parties. A definition of maturity for price premiums or penalties might incorporate the report of a tasting panel on organoleptic characteristics of must or finished wine (assuming time for payment is not COD), or the decision of an arbitrator or panel of arbitrators. If characteristics that are important to a party can be measured by standard chemical or physical tests, contract definitions can refer to a lab report. Even as elusive a concept as maturity may be agreed to include falling between certain values in objective criteria, to supplement the more opinion-based requirements.

Further negotiation is, in my opinion, a failure of drafting that should almost never appear in any kind of contract.

When an essential deal is being negotiated at the eleventh hour, and the parties simply cannot find a way to define a key concept, the temptation is strong to sign something and leave the issue for further discussion. Actually taking such a gamble is a business decision. All the lawyer can do, after contributing whatever negotiating skills he or she may have to the process, is point out the what-ifs and attempt to minimize risks by appropriate language that can be agreed to at that point.

Damage control in a contract that leaves something important to future agreement includes a duty to bargain in good faith, a specific time limit to reach agreement, and a method (usually arbitration) to determine the issue by a certain date if the parties do not agree. Arbitration and mediation are another topic, too extensive for treatment here, but I will close with one observation:

The normal purpose of arbitration is to resolve an issue more cheaply and quickly than in litigation. To do so, an arbitration clause must be drawn very carefully and often is rather long, in order to deal with contingencies without resorting to court (and adding the cost of an unsuccessful arbitration to the eventual lawsuit). Even so, there is no guarantee of expense or time savings. Short clauses that incorporate rules of unofficial organizations, such as the American Arbitration Association, are fine if you understand the implications, including costs, of doing it their way.

A little grousing about distributor contracts

Some of my best friends are distributors. I like distributors. We all need good distributors.

But, producers and distributors are cats and dogs in the legislatures, and the growers and wineries simply don't spend enough in cultivating friends among the lawmakers. So we get laws that charitably can be called grafitti on the lawbooks, altering the contractual relationship between a supplier and a wholesaler so as to keep a brand in the clutches of some bozo who wants it only to prevent an aggressive distributor from running with it.

To no one's surprise, the U.S. Supreme Court recently refused to review a distributor termination decision of a lower Pennsylvania court. The decision at least implied that the extraordinary power of the states under the 21st Amendment to regulate 'liquor' permits state law to diminish somewhat the protections that the Contracts Clause of the U.S. Constitution otherwise would provide to suppliers. The specific lessons of the actual case are old ones:

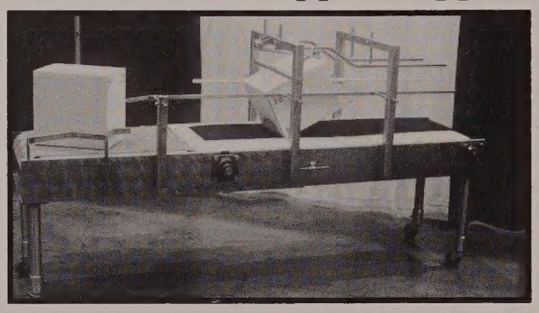
1) If you buy the business of another winery, look carefully at its existing distribution agreements, written and oral, and incorporate warranties concerning them in the purchase contract.

2) Be very careful in drawing up an agreement that is intended to get around provisions of so-called 'franchise laws.'

The more general lesson is that we are suffering still from the once-avoidable disaster of being included in the definition of 'liquor' under the 21st Amendment, not least in the area of laws that alter contract rights in ways that might be unconstitutional for other kinds of goods. ■

Bottling Lines You'll Flip Over

Case Turner-Flipper-Flipper



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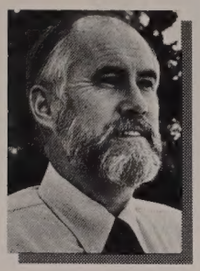


D.R. Storm, Ph.D, P.E.

Transdermal drug delivery (No pills and no needles?)

For someone with a fear of needles, and who struggles with football-sized vitamin pills that lodge in the throat, the idea of receiving drugs and other medicants through the body's outer wrapping via a special bandage, seems like the best medical idea to emerge in a long time.

Almost anyone who ventures by small boat in the ocean is familiar with the behind-the-ear patches, which contain scopolamine, that somehow quells the sea-induced uneasiness in the stomach. These patches are issued routinely to shipboard crews in rough weather by the U.S. Navy, which prefers that seagoing, battle-ready sailors remain that way, not hanging over the side from the effects of mal de mer.

My friendly town pharmacist says that estrogen and nitroglycerin also are available now in patch form, and nicotine patches designed to help kick the smoking habit apparently are not far behind.

Thus it does not seem too far-fetched that some wine industry representative, with his eye on biotechnology, will capitalize on the idea and create wine patches that can be worn on the inside of the cheek. These patches would allow the enjoyment of a great vintage without the clutter of stemmed glasses and the sniffing and swirling that is part of the usual ritual.

This patch also could limit the transdermal intake to control blood alcohol to the prescribed limit for safe driving and long-term radiant good health. The wine patch user would have to forego the integrated excitement that usually is expressed from color, bouquet, aroma, and finish. The perfume industry's scratch-off technology may have to be included in a 3"x 5" special sensory card to make the concept work.

Maybe an accompanying compact-disc or Sony Walkman tape would describe all of the sensory experiences that the patch fails to cover, to complete the package. This far-fetched idea shows how bizarre a winery owner's fantasies become to broaden the use of his product and to seduce the unwary **PWV** *reader into delving further into the column which follows.*

Analyzing your electric power bill; tightening the overhead cost belt (Part I)

Watt's happening electrically

No winery, large or small, is immune from the need for electric power to operate production and site utility equipment. If you are like most administrators or responsible winemakers who review overhead costs, the electric power bill doesn't get much attention except an occasional "OUCH!" when the bill goes from four to five digits. (It is not my intention with this subject to pass myself off as an electrical engineer, but only to demonstrate how a winery owner or manager can fine-tune power use by careful analysis of power bills and of service contracts.)

Pacific Gas & Electric Company (PG&E), Northern California's principal electric utility, sent to all residential customers an eye-catching summary of the previous year's electric and natural gas charges. It was sent under separate cover shortly after the arrival of the November statement.

Also included was a questionnaire on a residential inventory of electric appliances and equipment that the particular revenue meter or meters serve. Unfortunately PG&E did not see fit to make the same mailing to commerce or industry.

An industry, such as a winery, must request an energy audit. The local PG&E office nearest to the winery should have a staff person who can schedule and perform an audit (see '800' phone number at the end of this column to call for assistance on energy savings).

Unfortunately my research on this subject did not include utility practices for other areas in California or other states, but probably it is safe to say that the need to conserve power is a common concern no matter what the location. Other electric utility companies probably have similar programs to help the user make the most of energy consumption.

Understanding your power bill and service contract

Somewhere in your files, hopefully, is a copy of the energy rate schedule or schedules which are applicable to your winery. Included in the schedule are the limits and conditions under which you receive power from your service utility.

For example, if your vineyard receives irrigation water via a deep-well groundwater system, the well should be on an agricultural rate schedule, if it isn't already. Thus, you may have two schedules to analyze with two different sets of conditions and use limits.

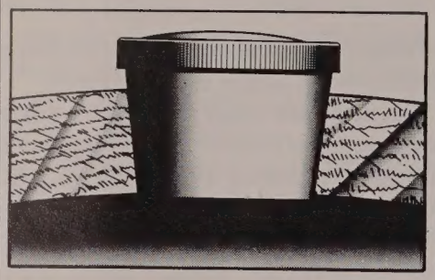
Dollars and sense

The rate schedule defines and subdivides into several components, the monthly charges levied by the power utility. Some of the definitions sound like electrical double-talk, but they are fair and equitable when the utility's viewpoint is clarified.

The winter period, defined by PG&E's Schedule E-20[1], is from November 1 through April 30; summer is from May 1 to October 31. Partial-peak period is from 8:30 a.m. to 9:30 p.m., Monday-Friday (except holidays). Off-peak period is from 9:30 p.m. to 8:30 a.m. Monday-Friday (except holidays, but including Saturdays, Sundays, and these holidays: New Year's

Charge [1]	Definition	Cost for Secondary Power	
		Summer	Winter
(a) Customer Charge	Flat, fixed monthly fee	$330.00	$330.00
(b) Demand Charges (per KWH)			
•Max. peak period demand	Max. demand during the month's peak hours.	$11.20	--
•Max. demand	Max demand at any time during the month	$4.00	$4.00
(c) Energy Charge	Actual meter KWH multiplied by the appropriate use category for time of day and time of year (see winter summer season definitions following this tabulation).	PP $.10828	
		PPP $.07350	$.06284
		OPP $.05610	$.05443

PP=Peak Period
PPP=Partial Peak Period
OPP= Off-Peak Period



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What emerges from a review of the rate schedule is that by possibly scheduling to night periods some non-essential work tasks involving high horsepower electrical use, approximately $0.05 per KWH could be saved. It wouldn't take too many KWH at the lower rate to make a substantial saving in the monthly bill. Many tasks cannot be scheduled to offpeak periods, but some can. For example, irrigation pumping for vineyards or landscaping during night hours is a distinct possibility.

Taking advantage of the demand charges is a little more complex. There must be some device in the winery which can anticipate electric load limits and drop loads (on a preset priority basis) to keep overall winery load below the magic maximum peak period and maximum demand limits. The power company's energy auditor and the electrical engineer most familiar with your winery's electrical system can work cooperatively to control the peak demands and thus reduce or eliminate peak demand charges.

What else can I do?

Using training and posters (as with water conservation) to make employees conscious of electrical power conservation could work wonders. Also pray for a technology breakthrough in electric power production from hydrogen fusion. It is probably the only event that will slow the ever-increasing cost of energy in the next 20 years.

Part II of this series will explore other sections of the typical winery rate schedule and how power factor adjustments and control can be achieved to save more overhead dollars. Peak load control devices will be discussed as well as how to save energy on lighting systems and well pumps by simple efficiency checks. ■

(For energy audit telephone inquiries in the greater San Francisco Bay Area and Northern California, call: 800/675-5499.)

David Storm is a Consulting Civil and Sanitary Engineer and owner of Winters Winery.

References

1. Pacific Gas and Electric Co. *Commercial/Industrial Schedule E-20; Service to Customers with Maximum Demands of 1000 Kilowatts or More*, May 1, 1991.

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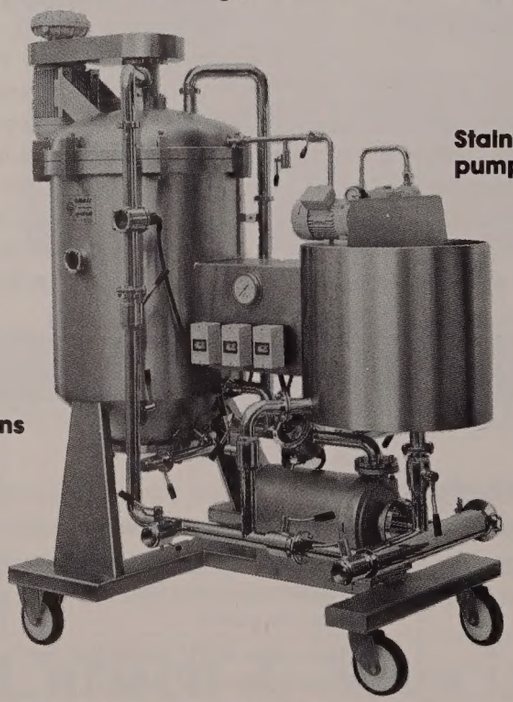

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Jake Lorenzo

Back more than 20 years ago, I had a friend who taught in East Los Angeles, CA. One day he was giving a science lesson. On his desk stood two empty glasses. He filled one with water, the other with wine.

From a small, wooden box he pulled two wiggling worms. He dropped the first worm into the glass of water where it wiggled around like a kid in a pool on a hot day. He dropped the second worm into the glass of wine where it immediately turned rigid and died.

My friend asked his students, "Class, what have we learned from this experiment?"

☆ ☆ ☆

Deep in the back row a kid's hand shot up and the student said, "It goes to prove that if you drink wine, you ain't gonna get no worms."

☆ ☆ ☆

Most of the time Jake Lorenzo is upbeat. I'm a positive, optimistic person with a bizarre sense of humor. I find some of the oddest things funny. On the other hand, I am devastated often by things that never seem to bother the people around me. In this column, I am going to vent my spleen:

Way back in college, my hero was Abbie Hoffman. Inspired by Abbie, we started a Guerrilla Theater group. We gave out free oranges (stolen from the orange groves the school wanted to tear down), thereby thwarting the evil administrators' plot to give the students scurvy.

We showed dramatic films of burning, napalmed Vietnamese children on the cafeteria walls during lunch time, which resulted in the football team beating the crap out of us.

That's what Guerrilla Theater was about: disrupting day-to-day reality in funny or shocking ways to force people to consider things that hadn't entered their minds.

So, in response to one of ***PWV***'s other columnists, I've got to ask, "Who the hell is Jay Conrad Levinson and what does he have against humor in wine marketing?"

The wine business has become the snobbiest, most humorless, most depressed industry in America. Some guy who dares to invent Guerrilla Marketing (a surreal, dadaistic term if ever I heard one) advises the industry to avoid humor (***PWV*** Nov/Dec 1991). Dunk this guy in a glass of wine and see if he wiggles.

☆ ☆ ☆

As I remember it, when the real California wine boom began in the 1970s, it derived much of its energy from the joining together of very incongruous groups of people.

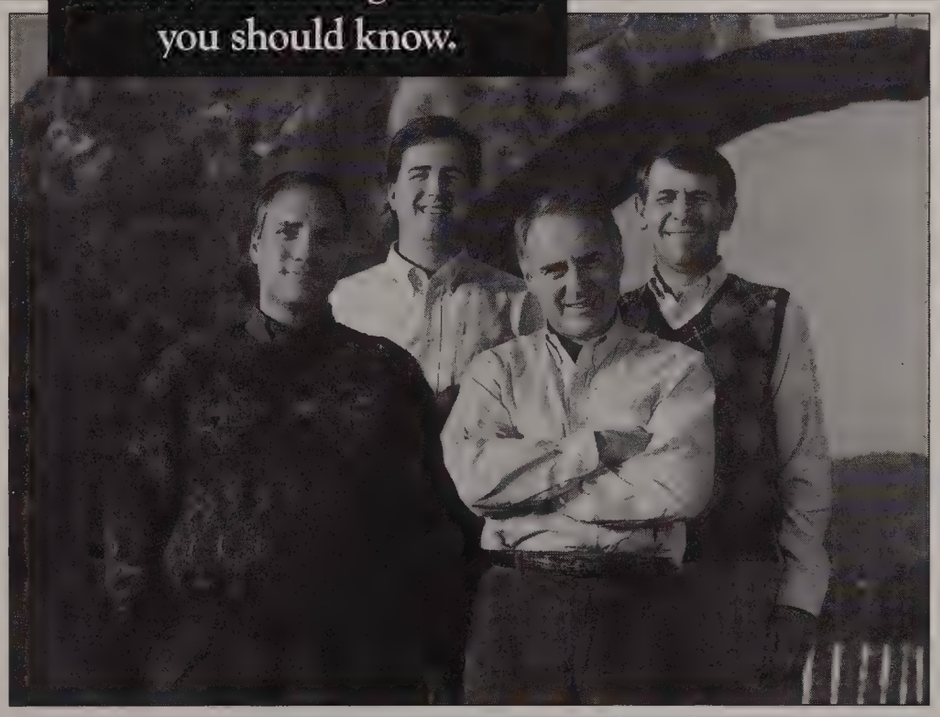
It was hippies and other disenfranchised people, searching for a more rural and natural life for their families and children, who moved into the sleepy towns and hamlets of Northern California and became cellar rats for the burgeoning wine industry.

It was intelligent, successful, caring professionals, disgusted by the greed and callousness of "mainstream" business, who opted to start their own small wineries and leave the rat race behind.

It was local farmers looking, as all farmers do, for a viable crop and a secure market, who decided to protect themselves by starting their own wineries.

It was the poor and hungry laborers from

There's something about us you should know.



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Mexico, desperate for money to feed their families, who were willing to do the back-breaking work in the fields.

So hippies, who thought all farmers were redneck bigots; farmers, who thought long-hairs were sex-crazed communists; professionals, who simultaneously were terrorized and invigorated by the risk they were taking; and Mexican laborers, intent on feeding their families, combined to produce this magical melange that energized the wine business.

Hippies were thrilled to earn a living so connected to the seasons and nature. Farmers were thrilled with the easy, informal, fun-loving, hard-working cellar rats. Farmers were re-energized by this younger generation that respected them for protecting the earth and producing this bounty from Mother Nature.

The Mexican laborers earned enough money to feed their families, bring them to California, and offer them a better life in the future. The professional heaved a sigh of relief to see that his risk-taking had been worth it, that success was just around the corner and could be had without sacrificing one's ideals in the name of profit.

Well, ladies and gentlemen of the wine industry, you had better lift your noses from those depressing, computerized depletion sheets. Look around. We must be ever vigilant or we will find that we have become the enemy.

☆ ☆ ☆

It's been almost a year since I told you about my friend Kieran Toovey (**PWV** May/June 1991). His father, Tracy, was a great winemaker and a good friend. Kieran wasn't even one-year-old when his father was murdered by Ramon Salcido.

I asked every winery to send a bottle or two of their 1988 releases to set up a wine library for Kieran. During the past year I've contacted winery associations, tasting groups, and private parties to donate to Kieran's Cellar.

You know how many of the more than 700 wineries in California took the time and went through the expense of sending a bottle or two of wine to this wonderful child? FIFTEEN!

That is a pathetic and callous showing from an industry purported to have a heart. Do yourself a favor. Get up and send the bottle today. Send it to: Kieran's Cellar, c/o Jake Lorenzo, 17090 Park Ave., Sonoma, CA 95476. Then call a couple of your cohorts in the wine business and badger them until they send a bottle.

☆ ☆ ☆

Sometimes we find ourselves sitting at a table filled with $30 bottles of wine. In the midst of the laughter and good company, a dark thought passes through our brain.

We're not enjoying this fine wine nearly as much as we used to. The flavors turn our mouths chalky and we can't think beyond the next interest payment, or the next wine review. We can't enjoy the sprawling vista of vineyards without worrying about phylloxera. Our kids have grown up too fast and we wish we had spent more time watching them.

Take a hint from your friend, Jake Lorenzo. The American Bible on television, "60 Minutes," tells us that drinking wine with meals is good for us. We all realize that our veins are like freeways by now and those platelets don't stand a chance in hell of sticking to the walls.

We've got plenty of time.

We can think about what's truly important to us, to our families, and to our planet. If the wine industry no longer will allow us to pursue what we truly believe, then we have two choices: We can change it back to what we want, or we can leave it and look for a new challenge.

Either choice is viable.

Whichever way you go, don't forget that magical melange of energy that forced itself into the bottle. Wine always will be a part of our lives.

And we can rest assured knowing we ain't gonna get no worms. ■

What makes a winery newsletter work?

By Janet Fletcher

A consumer newsletter can be a powerful public relations and marketing tool, or it can be a bottomless sinkhole for dollars. Nobody wants to throw money away, but wineries that rush to print without a strategy might as well dig a hole and bury the cash. A newsletter worth doing needs a game plan.

How do you create a publication that appeals to readers and repays your investment? The following comments address the editorial side of newsletter publishing — the planning and the writing. In the next **PWV**, I'll deal with the other part of the equation, the elements of successful newsletter design and production.

Why newsletters work

Good managers don't underestimate the importance of communication — with employees, with customers, with the media. A newsletter is one of the most effective and least expensive ways to communicate, to get a specific message to a specific target. It helps you sell your business and your product in a friendly, non-aggressive way. Howard Penn Hudson, publisher of the *Newsletter on Newsletters*, says that readers find newsletters a good deal more credible than advertising or direct mail.

What's more, a newsletter puts you in control. It allows you to shape your winery's image as you see fit. You can present your story to consumers and to the media exactly as you want to write it, instead of allowing them to derive their impressions about you from uncontrolled sources.

Define your goals

To create a successful newsletter, it's important to establish clear goals and verifiable objectives. Before you outline or design the first issue, take time to sit down with your newsletter editor and define your mission. These goals will drive your content and design.

Be as specific as possible and put it in writing. Perhaps you want *to promote* your winery as a leader in vineyard practices; *to persuade* readers to support politicians and causes favored by the wine industry; *to inform* readers of your hospitality capabilities. Most likely, you want *to advocate* the pleasures of wine appreciation and *to inspire* brand loyalty. A newsletter can effectively have all these goals.

Next, develop objectives. These statements should describe measurable benefits you want the newsletter to achieve: increased traffic in the tasting room, a percentage increase in direct sales, increased attendance at winemaker dinners or special events, more media coverage of your vineyard experiments. You and your newsletter editor should agree that the objectives are realistic and achievable.

Find the right audience

Who should receive the newsletter? The most obvious answer is people who've shown an interest in your operation — those who've visited your tasting room, stopped by your table at a public tasting, attended a winemaker dinner or a winery event.

Have a newsletter sign-up sheet in an obvious place in your tasting room and at all public tastings. Collect business cards at winery events and at winemaker dinners, or ask the event host to supply names and addresses of attendees.

Your newsletter certainly should be sent to the media, and not just to the wine media. Magazine and newspaper food editors and travel writers also should receive your publication. If you have hospitality facilities, add event planners, conference planners, and caterers to your list. Where do you find them? Most of these people belong to professional associations whose membership rosters may be for sale.

Most wineries produce newsletters for the broad audience of wine enthusiasts. Why not supplement your consumer newsletter with a specialized publication for an audience that other wineries aren't addressing? A short, informative, and inexpensive winery bulletin targeted at sommeliers, travel agents, food editors, or wine retailers might well repay the investment. Be an information source for these influential people and you will see returns.

Building a good list and maintaining it properly are critical to newsletter success. If you're not familiar with database systems, hire a consultant to set up a mailing list database and train your staff to maintain it.

To keep the list current, take advantage of the address-correction service the U.S.

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Postal Service offers. Periodically update by requesting a show of interest via a postage-paid reply card. It's too expensive to keep mailing to people who are no longer interested or no longer there. At the same time, solicit input from readers or survey them on an issue that interests you.

Give a reason to read

It's natural to be so proud of your newsletter that you believe customers actually read it. But why should they? In most households, your publication probably competes with such a flood of junk mail, periodicals, and paper that you are lucky to get 15 seconds of undivided attention.

If you want to be read and remembered, provide something useful. Give readers information that's going to benefit ***them.*** Your newsletter should save them money, entertain them, or present useful information they haven't seen elsewhere.

Of course, it also has to go to bat for you. A successful newsletter integrates your needs with those of the reader. Both sides win. Try to think of stories that have lasting value, the kind of articles that people want to clip and save. Journalists and editors look at industry newsletters for story ideas; if your newsletter frequently has provocative editorials or features on timely topics, you become a valued source. Other publications may request permission to reprint.

Give your readers a reason to read: Offer mailing list members special privileges, such as invitations to winery events, insider tourist information, merchandise discounts. Solicit reader input on a newsletter topic and offer a prize for the best entries—a large bottle of wine, perhaps, or a private winery tour and picnic.

Readers can be an endless source of information for your newsletter. Ask their opinion on wine-related topics and print the best answers. Everyone likes to read what other people think. Employees also are good sources because each has a different perspective. Interview your national sales manager, tasting room manager, vineyard manager about issues they face. What questions do they answer repeatedly?

Take a tip from magazine publishers and present your material in a variety of formats: question-and-answer, a profile, an editorial, a couple of features, an interview, a letters column, a pictorial spread. Remember that a newsletter should be 'newsy' — brief, concise, and approachable. Keep sentences, paragraphs, and articles short.

Pay particular attention to headlines, taking the time to make them strong and active. They are the advertisement for your story. Boring or standing headlines like "Winemaker's Corner" make a reader's eyes glaze over.

What's the Frequency?

A newsletter should reach people before the news is stale. It should be regular and dependable, building on past impressions rather than starting anew each time with readers who hardly remember it. It's not easy to build a friendship with someone you see once or twice a year.

Regular repeat impressions work. Better to produce an inexpensive newsletter frequently than a more costly piece sporadically. An appealing newsletter, published often, keeps you fresh in people's minds when they are ready to buy gifts, to visit wine country, or to order from a restaurant wine list. ■

Janet Fletcher, based in Oakland, CA, specializes in newsletters and other promotional literature for food and wine clients.

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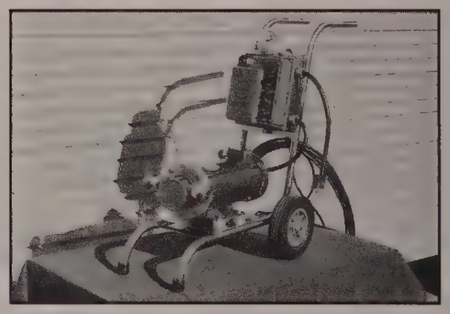

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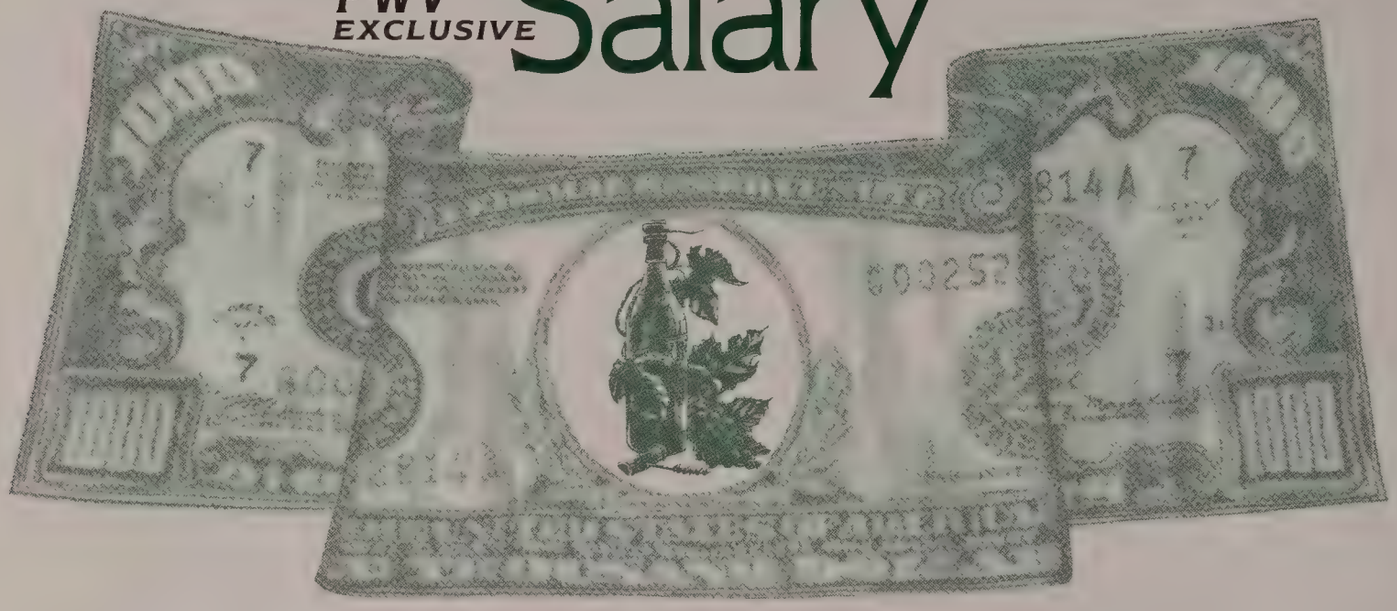


By Jeff Sully
Motto, Kryla, & Fisher

Harvest is long over. This is a time to reflect — to set goals for the coming season. Keeping this in mind, ***PWV***, with the help of wine industry accountants and consultants, Motto, Kryla, & Fisher, St. Helena and Healdsburg, CA, presents the third biannual Salary Survey of premium winery and vineyard employees.

This survey is unique, in that we went directly to the employees, using the ***PWV*** subscriber list, and other sources. The questionnaire requested job title, winery production capacity, salary, benefits, and location by state. From almost 500 questionnaires mailed, ***PWV*** received nearly 300 responses.

This is not a scientific survey. Consequently, the anonymous responses are not a statistical sampling. In addition, responses that were obviously incorrect were not included, nor were responses where an employee received an unusually high or low compensation. However, the survey does provide an idea of "what's going on out there."

The questionnaire's final query asked if the employee thought the compensation package was appropriate for the job responsibilities. Many comments were negative, with two common themes:

First, the salary structure did not compensate properly for overtime. Either overtime wasn't paid at all, or comp-time wasn't offered as an offset. This comment appeared most often from smaller wineries, where a key individual may wear several hats. A few respondents from the larger wineries said the same thing!

The second common response (respondents did not reply necessarily in that order) was that employees were underpaid for the skills and training the job required. In addition, the salary level did not offset the employee's assumption of many extra responsibilities. This second point transcended winery size.

There also were some positive responses. Some said that the ability to set their own hours made up for the low pay. Others felt that the extra benefits mollified any salary shortcomings. These benefits include wine at little or no cost, housing and car allowances, and expense accounts, in addition to traditional health and retirement plans.

While there are tables of data at the end of this report, the graphs present the 'big picture.' Most of the graphs compare responses based on four winery-size groups: under 15,000 cases/year; 15,000 to 50,000 cases/year; 50,000 to 150,000 cases/year; over 150,000 cases/year.

Figures I, II, and III present background information about respondents. While most of the responses came from California, we did receive responses from most wine-producing states. In contrast to the ***PWV*** survey reported in March/April'90, this year's questionnaire included the job title of General Manager.

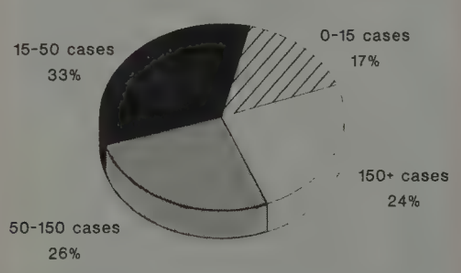
Fig. IV gives the average salary by job description for the four winery groups. As might be expected, salaries tend to follow winery size. The 50,000- to 150,000-case group shows proportionately higher salaries for the winemaker and vineyard manager. In Fig. V, employees in the same group collectively received larger salary increases than employees in other groups.

The vineyard manager position seems to be more important than others, when looking at salary levels and attendant increases. This is most evident in the larger-winery groups.

Figures VI through IX provide benefits

Figure I

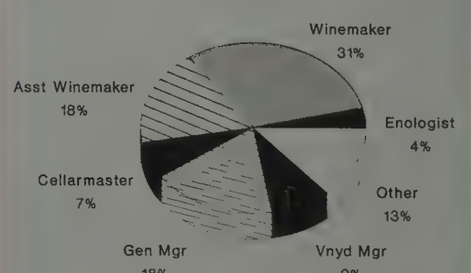
Responses by Winery Capacity
Annual Case Production in 000's



Percentages of total respondents.

Figure II

Responses by Job Description



Percentages of total respondents

information. Fig. VI has responses to questions about extra benefits. Clearly, very large wineries can afford to offer all four listed benefits. Surprisingly, company cars are common among all four groups (although the definition of a car or truck is subject to interpretation!). Housing allowances are more common among smaller wineries, most likely due to the fact that small wineries are more isolated, and that someone needs to look after the property. Finally, all wineries equally offer wine programs.

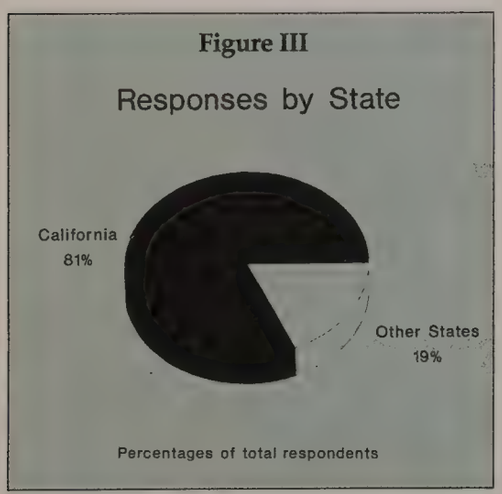
In the previous ***PWV*** survey, many of the smaller winery employees responding did not have health insurance plans. This has improved slightly. Fig. VII has responses for health, dental, and life insurance coverage. For some reason, favorable responses in the 150,000+ group are down compared to two years ago. This does not mean that larger wineries no longer offer as much insurance as before. Instead, fewer winery employees in this group reported favorably in this year's survey.

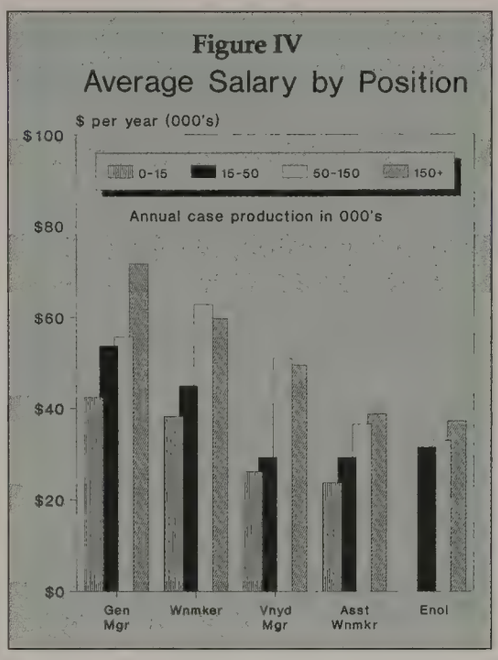
Fig. VIII shows employees enjoying bonus and stock purchase plans. Compared to the previous ***PWV*** survey, more small-winery employees received bonuses this time. Employees in the three larger-winery groups reported bonuses being about the same as before. The average dollar amount of bonuses remained at about the same level as before.

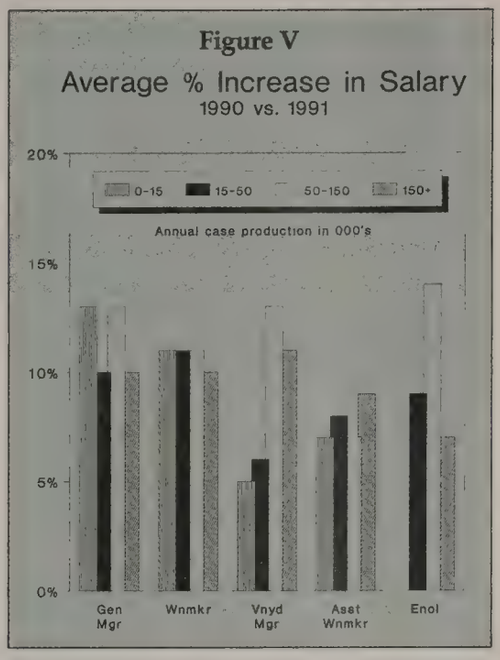
No one in the smallest-size group reported stock participation. Even in the larger-winery groupings, stock purchases are not common.

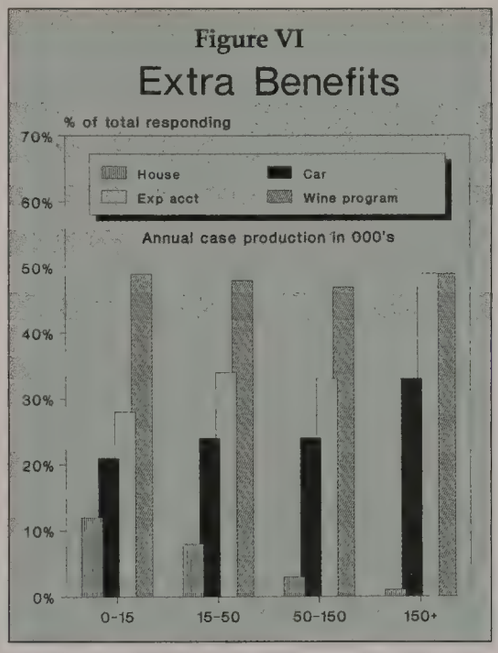
Retirement programs in the form of profit-sharing or 401-K plans were slightly more popular in this survey. The gains were slight, but steady across the board. Fig. IX shows the availability of these plans to be commensurate with size.

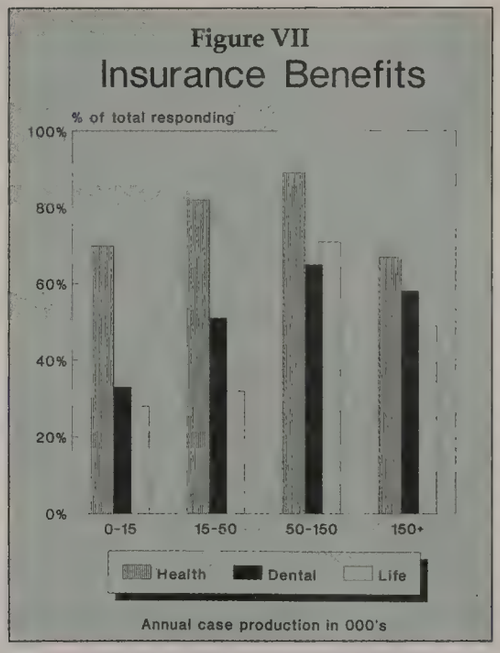
Overall conclusions support the concept that the larger the winery, the more gener-

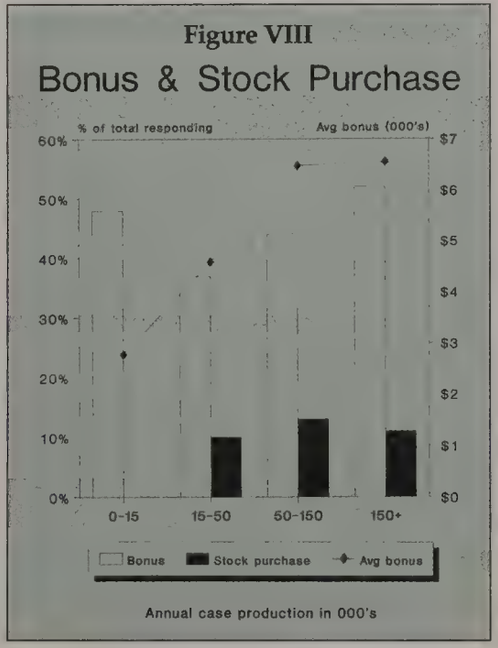


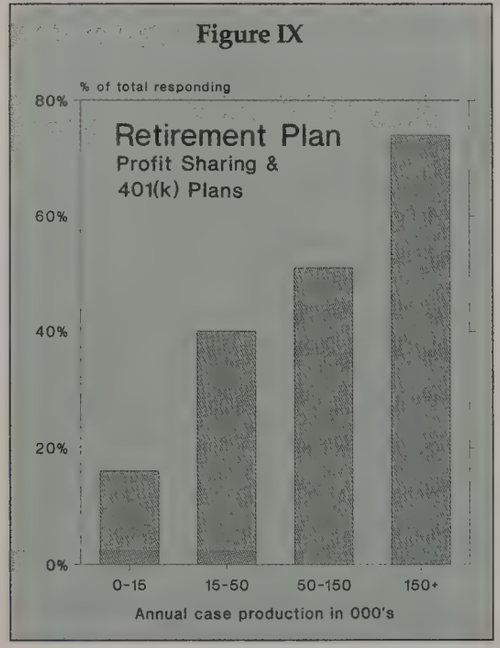












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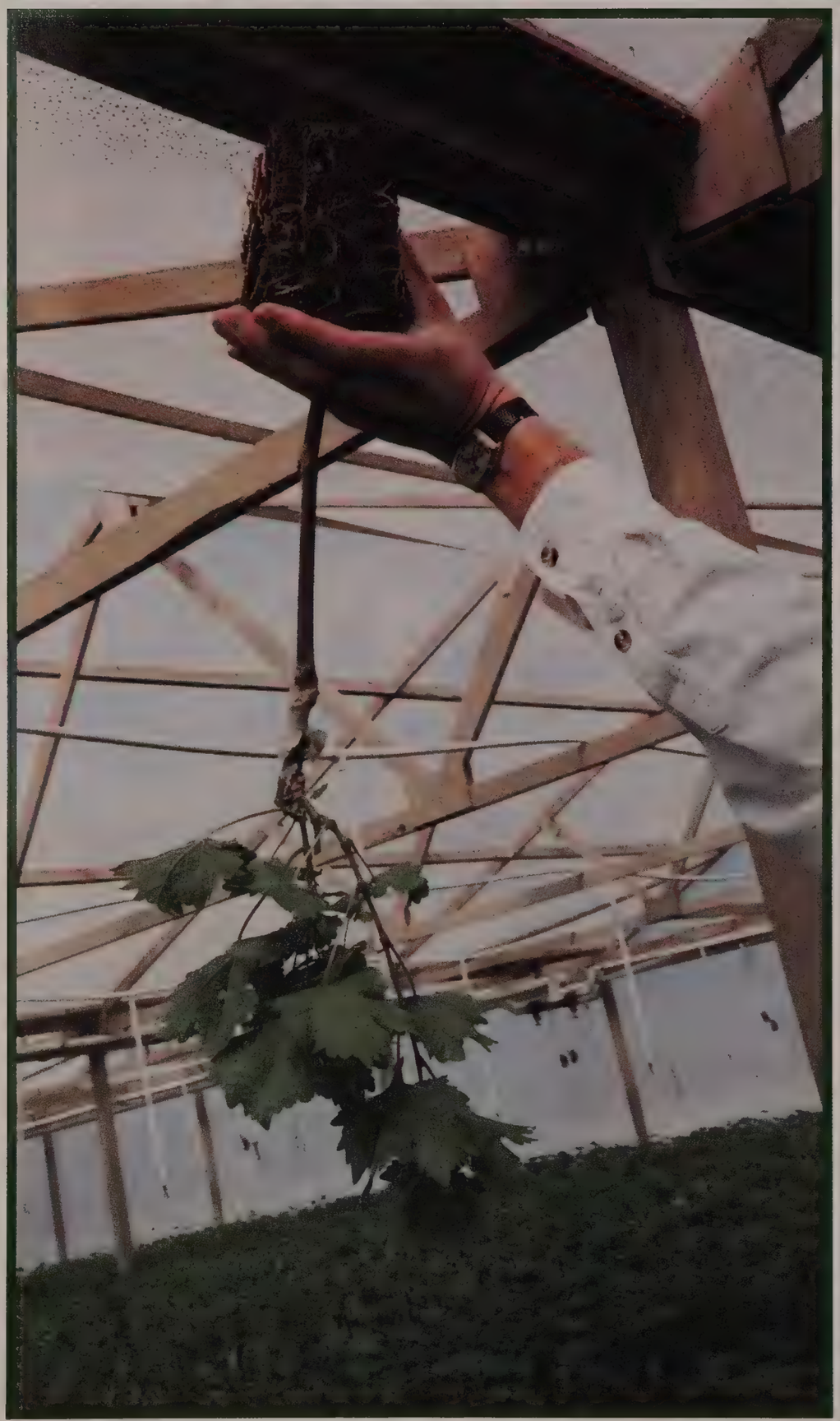

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ous the compensation package. This survey reported a definite trend in the 50,000- to 150,000 cases/year winery bracket: Employees received greater benefits, as compared to other winery sizes.

In the two larger-winery groups, the vineyard manager is receiving more attention than previously. This is due most likely to the wineries' desire to improve quality through the latest vineyard practices. Many of the new techniques are expensive to implement — only the large wineries can afford to make and effectively manage the changes.

In the March/April '90 ***PWV***, we expressed surprise at the spread of salary averages for winemakers of different winery sizes. That gap still is evident. While lesser compensation might be balanced by the 'quality of life,' some of the comments indicate this argument is wearing a little thin.

Following are responses by job title, winery capacity, and salary bracket:

General Manager

Winery Capacity: **Under 15,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
3	$20,000 - $30,000
5	$37,000 - $45,000
8	$47,000 - $70,000
16 TOTAL RESPONSES	$42,537 (AVERAGE)

Winery Capacity: **15,000 - 50,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
5	$29,000 - $40,000
5	$44,000 - $50,000
3	$58,000 - $65,000
5	$70,000 - $80,000
18 TOTAL RESPONSES	$53,728 (AVERAGE)

Winery Capacity: **50,000 - 150,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
5	$34,000 - $48,000
4	$50,000 - $60,000
3	$67,000 - $82,000
12 TOTAL RESPONSES	$55,717 (AVERAGE)

Winery Capacity: **Over 150,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
4	$52,000 - $64,000
2	$65,000 - $67,000
3	$74,000 - $105,000
9 TOTAL RESPONSES	$71,833 (AVERAGE)

Winemaker

Winery Capacity: **Under 15,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
3	$24,000 - $29,000
5	$30,000 - $40,000
5	$45,000 - $51,000
13 TOTAL RESPONSES	$38,250 (AVERAGE)

Winery Capacity: **15,000 - 50,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
14	$25,000 - $39,000
7	$40,000 - $49,000
9	$50,000 - $52,000
9	$53,000 - $70,000
39 TOTAL RESPONSES	$44,394 (AVERAGE)

Winery Capacity: **50,000 - 150,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
8	$39,000 - $52,000
3	$53,000 - $66,000
4	$67,000 - $85,000
2	$100,000 - $105,000
17 TOTAL RESPONSES	$62,807 (AVERAGE)

Winery Capacity: **Over 150,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
3	$30,000 - $42,000
5	$45,000 - $49,000
5	$50,000 - $59,000
5	$60,000 - $65,000
3	$70,000 - $77,000
2	$100,000 - $130,000
23 TOTAL RESPONSES	$59,809 (AVERAGE)

Assistant Winemaker

Winery Capacity: **Under 15,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
4	$14,000 - $42,000
	$23,750 (AVERAGE)

Winery Capacity: **15,000 - 50,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
4	$15,000 - $25,000
4	$26,000 - $29,000
5	$30,000 - $35,000
3	$36,000 - $38,000
16 TOTAL RESPONSES	$29,344 (AVERAGE)

Winery Capacity: **50,000 - 150,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
6	$25,000 - $29,000
3	$30,000 - $35,000
5	$36,000 - $40,000
5	$42,000 - $55,000
19 TOTAL RESPONSES	$36,551 (AVERAGE)

Winery Capacity: **Over 150,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
3	$24,000 - $31,000
5	$32,000 - $38,000
4	$40,000 - $48,000
2	$55,000 - $60,000
14 TOTAL RESPONSES	$38,804 (AVERAGE)

Cellarmaster

Winery Capacity: **15,000 - 50,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
4	$20,000 - $25,000
4	$30,000 - $35,000
2	$40,000 - $55,000
10 TOTAL RESPONSES	$31,299 (AVERAGE)

Winery Capacity: **50,000 - 150,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
4	$35,000 - $45,000
	$38,950 (AVERAGE)

Enologist

Winery Capacity: **Over 150,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
4	$30,000 - $35,000
4	$37,000 - $61,000
8 TOTAL RESPONSES	$37,288 (AVERAGE)

Vineyard Manager

Winery Capacity: **15,000 - 50,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
2	$16,000 - $20,000
2	$25,000 - $28,000
3	$30,000 - $34,000
1	$50,000 - $53,000
8 TOTAL RESPONSES	$29,370 (AVERAGE)

Winery Capacity: **50,000 - 150,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
4	$23,000 - $68,000
	$50,690 (AVERAGE)

Winery Capacity: **Over 150,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
5	$34,000 - $42,000
5	$49,000 - $55,000
2	$64,000 - $72,000
12 TOTAL RESPONSES	$49,525 (AVERAGE)

Winemaker/Vineyard Manager

Winery Capacity: **Under 50,000 cases/year**

REPLYS	ANNUAL SALARY RANGE
4	$25,000 - $30,000
3	$35,000 - $45,000
2	$50,000 - $73,000
9 TOTAL RESPONSES	$39,462 (AVERAGE)

Retaining top people in a time of changing priorities

By Peter Dolan

How do successful wineries retain their top people? Job satisfaction and working environment still are strong motivators for winemakers, production and distribution managers, and other key players. But today, you may find that a pair of handcuffs come in handy.

For the most part, top managers in the wine industry were not looking for a corporate crib when they gravitated toward winemaking. The chance to work in a warm climate, make highly-regarded product, and avoid corporate bureaucracies was very appealing to 'Baby Boomers' entering winemaking 10 to 15 years ago.

Even a winemaker working for an over-400,000-case/year producer cited the working environment and occupation ("making a quality product"), rather than the compensation received, as reasons why he remains in his present position. But this same person now has kids entering college, and is concerned about funds for retirement. The priorities in terms of what constitutes a "good place to work" are beginning to shift.

That winemaker's view conforms with the perceptions expressed in the 1990 ***PWV*** Salary Survey. Many of the 300 production employees responded that, "salaries are low and benefits inadequate."

The survey showed that wineries offering perks beyond insurance benefits — bonus and stock purchase plans, company cars, expense accounts, and retirement plans — were primarily the larger-volume wineries. A large percentage of respondents who indicated that they had some form of retirement benefits worked for wineries which accounted for only 1/3 of the total wineries represented.

What is the best plan for you?

Many wineries began as, and essentially remain, family businesses. Quite often, this makes them more flexible in their approach to employees.

"We're a great place to work, with a friendly, open environment," said Mark Smithers, Chief Financial Officer for Joseph Phelps Vineyards (Napa Valley, CA). He noted, however, that Phelps now also offers a qualified stock purchase plan for key employees. Phelps' stock plan, which constitutes 10 percent of the winery's ownership is exceptional. For most wineries, dilution of ownership is not even a consideration.

A controller at a 100,000+ cases/year winery cites the "open door policy" of the winery owners as a big plus. The owners deal with employee needs, such as pay advances, in a traditional, paternalistic fashion. The winery is implementing a cafeteria plan of health benefits with options including child care. Also, they are considering a 401K plan for employees.

Is a 401K the best plan for your winery?

Wineries are closely examining the 401K plan, a tax-deferred retirement savings plan, as a means of reward and retention. But if the objective in offering an IRS-qualified plan such as the 401K is to retain key people, there are several problems:

- The plan does not allow the employer to select participants. It is an all-or-none proposition. Under a dollar-matching 401K plan, the employer has no say over how that money is distributed. Indeed, a key person may choose to participate in the plan at a very low level or not at all.
- Depending on the ownership and compensation structure of the more highly-paid employees, they may be limited or excluded from contributing at all due to past changes in tax laws.
- Administrative costs incurred due to the increasing complexity of regulations governing qualified plans can eat up a substantial portion of the funds allocated for retention incentives. An article in the March, 1991 ***Nation's Business*** reported: "Pension experts say that the pace of change, its complexity, and added costs amount to a congressional death sentence for small-business pension plans, especially defined benefit plans."

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• Once an employee is vested, there's no incentive to stay: The funds travel with the employee.

Forging 'Golden Handcuffs'

Contrast a 401K plan with a Selective Employee Retirement Plan (SERP) — sometimes referred to as 'golden handcuffs.' This type of plan can provide a scenario which creates a 'win/win' for employer and key employees.

More wineries, looking at how to provide meaningful retirement programs for top employees, are turning toward nonqualified, or Selective Employee Retirement Plans. These plans are designed to focus only on top employees. New tax laws prevent highly-paid employees from contributing as much as they could previously to their Qualified Retirement Plans. Since the traditional qualified plan has lower contribution limits, the SERP is being used more frequently as a supplemental plan.

"It is difficult to measure the growth of SERPs among wineries," says Michael Ruben, benefit consultant with experience in the wine industry, "because wineries are reluctant to talk about these plans which are considered competitive tools for recruiting and retaining winemakers, production managers, and sales managers. However, many wineries have implemented SERP's in the last three years, while others are currently evaluating them for top management."

A very popular way for these SERP plans to be funded is with a specially designed, tax-advantaged insurance contract.

Popular in the late 1970s, life insurance fell out of favor during the go-go 1980s. The fact of the matter is, certain cash accumulation life insurance, when placed with a carefully selected carrier, has consistently outperformed other benefit-funding mechanisms. The desirability of specially designed life insurance for funding SERPs has attracted attention beyond small companies: Many Fortune 500s have incorporated these types of retirement packages.

Funding with a 'golden handcuffs' plan with life insurance offers the following benefits:

• Plans can be designed to be accessible by the corporation or not. (The IRS considers deferred income to be taxable to the employee if the employee has 'constructive receipt' (control of the funds.))

• Emphasis of benefits can be designed on a tax-favorable basis towards the employee and winery.

• Informally provides cash value available to meet the expected retirement income.

• May or may not restrict employee access to the funds, possibly contingent upon employment at some future date (retirement).

• Can continue to make payments to the fund if the employee is disabled.

• Pays an immediate benefit to beneficiaries if the employee dies.

Let's assume that your winery is a "great place to work." It offers a friendly atmosphere, flexible working conditions, and pride in its wines. Still, your top winemakers, marketers, and production managers may begin eyeing more stable, well-compensated slots as they begin looking toward retirement.

Maybe it's time you looked into purchasing a few sets of 'handcuffs.' ■

Peter Dolan is a financial advisor with the St. Louis-based Plaza Financial Group, Inc. He is a member of a fourth-generation winemaking family and a consultant on employee benefits.

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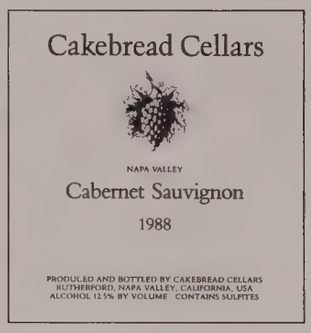
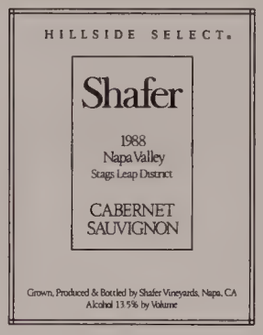
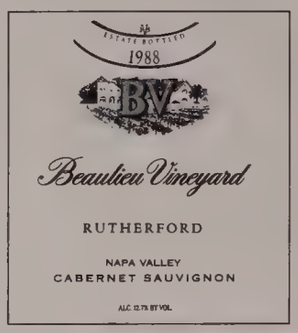
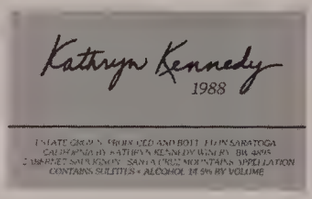


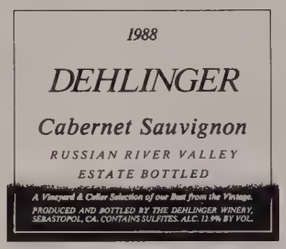




Achieving complexity and ageability in 100% Cabernet Sauvignon wines

By Eleanor & Ray Heald

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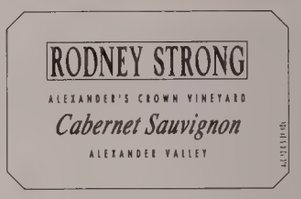


In California, production of wine solely from Cabernet Sauvignon grapes has become the exception rather than the rule. Many producers blend Merlot with Cabernet Sauvignon. Meritage producers blend various traditional Bordeaux red grapes into their wines.

However, deeply-flavored 100% varietal Cabernet Sauvignons with complexity and staying power are the choice of many California producers. Indeed, where else in the world can this be done as well?

PWV interviewed nine producers of 100% varietal Cabernet Sauvignon. These producers suggested the following factors can impact the maximum wine complexity and longevity that can be achieved: multiple vineyard fruit sources; different clonal selections; vine age; soil profiles; matching soil type and varietal; varied training and trellising; dry-farmed vs. irrigated vineyards; hillside vs. valley-floor fruit; multiple harvest maturities; fermentation by blocks and sub-blocks; manipulation of fruit during vinification; avoiding over-processing; whole-berry fermentation; fermentation temperature; maceration; blending press and free-run juice; small barrel ageing vs. oak uprights; ageing in French oak or American oak, or blend of both; using barrels from more than one cooper; unfiltered bottling; lengthy bottle ageing prior to release to build bottle bouquet.

Each winery is not employing all of the above elements. However, in a given vintage, and preferred style, they are 'blending' their methods within the parameters of fruit sources, vineyard practices, fruit ripeness, and fermentation options.

Winemakers agree that each winery must work with the available elements. The common thread among producers is individual decisions. Winemakers using partial whole-berry fermentation agree that it is a complexing element. Several wineries have ongoing experiments related to the best percentage of whole berry fermentation for their fruit source(s).

One objective must include locating a vineyard where Cabernet Sauvignon can stand on its own and is the production challenge for a single varietal wine. Since every winery has its preferred style, the vineyard must be matched to the style that's a fingerprint for the winery. The vineyard makes the difference.

Producers using sprinklers for cap management during primary fermentation are sold on their efficiency as a labor-saving device. They also said that the 'fire hose method,' could tear the fruit apart.

The jury is still out on the issue of filtered or unfiltered wine. There's little doubt that filtration stabilizes the wine for shipping. Producers (with a preference for bottling unfiltered) point to a complexing element during bottle cellaring. However, the trend toward unfiltered wines brings the 'Brettanomyces' issue to the forefront. Considerations must be given to creating a winery style leaning toward clean fruit or 'interesting' complexity, with its ensuing problems.

For this discussion of 100% varietal Cabernet Sauvignon, ***PWV*** chose the 1988 vintage with full realization that there were problems both at set and uneven fruit development at picking. Fruit ranged from unripe to raisins in the same bunch and lengthy ageability of wines from this vintage is questioned.

❖ Beaulieu Vineyard ❖

Rutherford, CA • Joel Aiken, Winemaker

Style

Producing a wine with the distinct characteristics of the Rutherford area is a primary goal. Secondarily, the aim is to release a wine that is drinkable and approachable when young, but one that will also improve with age.

Achieving Complexity

Beaulieu has multiple vineyard sources each offering distinct wines. Currently, vineyards are being replanted with different clonal selections on various rootstocks including 039-16. Experimental plantings have shown that these clones produce distinctly different wines from the same vineyard. Earliest plantings on AXR-1, now infected with phylloxera, were the Concannon clone.

Vineyards

The majority are located in the greater Rutherford area with the remainder scattered throughout the Napa Valley.

A wide variety of trellising and pruning systems, and canopy manipulation is used on drip-irrigated vines. In all vineyards, vines are suckered and shoots are tied. Leaf pulling is done after berry set in vineyards located near the Napa River. In past years, when leaf pulling was not done, overly vegetative fruit was harvested from these locations.

Vine spacing is varied, and overall, there

is little tight spacing. Yield is approximately four to six tons/acre.

Because pH is typically not a problem at harvest, Beaulieu concentrates on Brix levels and visual assessment of physiological maturity determined by basal leaves dropping, softness, or onset of berry shriveling. Typical targets are 22.8° Brix, 0.80 TA with 3.30 pH.

Winemaking

Whole clusters and stem return are not used because Aiken prefers avoiding stems since their astringency and flavor detracts from the varietal character of the fruit.

Currently, about 10% whole berries are included. In the future, Aiken would like to increase to 20% to 30% whole berries.

SO_2 is added at the crusher at 20 to 25 ppm. Active dry Prise de Mousse and Fermivin yeast are added at 1-lb/1,000 gal inoculum level one day after crushing. One day following inoculation, the must is acidulated to 0.75 TA, if necessary.

During fermentation, juice temperature is maintained at 75°F with a maximum cap temperature of approximately 90°F in open-top fermenters. Pumpover of ¼ of the total volume is done twice/day. Experiments involving increased volume and velocity of pumpovers led to increased astringency and bitterness.

Principal color extraction occurs prior to dryness, achieved in approximately seven days. Addition of press wine is determined by taste.

Prior to barreling (in new-to-12-year-old American oak), the wine is racked three times with aeration. Gelatin (silver leaf) fining of a masterblend is done prior to filtration where the wine is kept at 35°F for seven days and given a pink D.E. filtration. Aiken maintains that this keeps barrels clean and avoids cold stabilization after barrel ageing which can increase color loss.

After an 18-month barrel regime, the wine is egg white fined. At bottling, approximately two years after harvest, the wine receives a tight pad filtration and there is an 0.45*u* membrane ahead of the filler. The bottled wine, released four months after bottling, has free SO_2 levels of 25 ppm and approximately 80 ppm total.

Tasting notes: **1988 Beaulieu Vineyards**
Cabernet Sauvignon, Rutherford

Color/Aroma: Medium depth with ruby hints and brick-red hues. Cassis, cherry, blackberry, fragrant oak, cedar, spice, vanilla, mint, green olives, tobacco.

Flavors: Cherry, berry, vanilla, cedar, well-structured, earthy, dusty.

Balance/Finish: Round, rich, mouthfilling, lingering, moderate soft tannins, medium weight; some falling apart in finish with puckering acidity.

❖ Cakebread Cellars ❖

Rutherford, CA • Bruce Cakebread, Winemaker

Style

Cakebread is striving to produce a well-balanced wine in terms of fruit qualities, tannins, and finish that is capable of near-term drinking along with the potential to age for ten years.

Achieving Complexity

Each vineyard has its own individual characteristic. When combined, they offer the possibility of achieving the winery's stylistic goals.

Vineyards

Vineyards, spaced 7x11, in three Napa Valley areas are sourced. The Stags Leap vines are 23-years-old. Those in the Yountville area are 15-years-old and the youngest in Rutherford are eight-years-old. They were planted on AXR-1 and phylloxera is the current prevailing viticultural problem. Soils range from gravel to bale loam.

All vines are on a T-trellis with one or two fruiting wires. Winter pruning in the Stags Leap area vineyard leaves two to three canes with 10 to 12 buds on four or five spurs. Yountville vines are similarly pruned with two to four canes remaining. In Rutherford, the vines are on cordon and are pruned to five spurs/arm.

Vines are suckered in May and July. Leaves are pulled in June and July.

Irrigated vines receive six to eight hours of irrigation following set. They are monitored with neutron probes and irrigated as necessary.

Prior to fruit set, vines are sulfur-dusted. After that, the spray program switches to Bayleton.

Brix and vine stress are the major harvest parameters. The goal is to produce a wine with a TA of 0.74 and 3.35 pH. Yields range from three to 4.5 tons/acre.

Winemaking

Grapes are field-crushed. About 90% berry maceration occurs. Cakebread desires maximum juice extraction to get the juice/skin contact started as soon as possible. To avoid a stemmy, bitter character, stems are not used.

The must is acidulated depending on Brix and pH levels. Active dry Champagne or Prise de Mousse yeast is added at the rate of 2.2 lb/1,000 gal is added the day following crushing. During fermentation in closed-top fermenters, the maximum juice temperature reaches 80°F with maximum cap temperature at 88°F.

A sprinkler is used during pumpover once or twice/day for 45 to 60 minutes. The wine is pressed up to ten days past dryness.

The first SO_2 addition of 10 to 20 ppm is made after malolactic fermentation (MLF) completes. Unclarified wine is transferred to a mix of new to six-year-old French oak barrels for 22 to 24 months. Wine is racked three times/year with a positive displacement pump.

The wine receives a rough filtration prior to bottling and a polish filtration at bottling. It is bottle aged three to four months before release.

Tasting Notes: **1988 Cakebread Cellars**
Cabernet Sauvignon

Color/Aroma: Ruby-brick. Cherry, berry, plums, rhubarb, chocolate, warm spice, dusty, earthy, vanilla.

Flavors: Cherry, raspberry, blackberry, spice, chocolate.

Balance/Finish: Lingering, mouthfilling, rich, soft tannins, intense and distinctive.

❖ Dehlinger Winery ❖

Sebastopol, CA
Tom Dehlinger/FredScherrer

Style

A display of regional and varietal characteristics is the principal stylistic goal. Dehlinger strives to achieve deep color, full flavors (black cherry, toasted coconut, leather), and body. Dehlinger wants a strong, muscular wine that should shed its harsher tannic components after five to ten years in the bottle.

Achieving Complexity

Dehlinger vineyards are planted on rolling hills with extremely variable soil types. The vines' response to each soil type, as well as different vine ages, exposures to the sun and winds, yield fermentation lots with individual personalities. Each slope is farmed as a unique sub-block. Each block is fermented only with other complimentary sub-blocks.

The 1988 Cabernet Sauvignon is Dehlinger's first 100% varietal bottling produced using the vineyard selection program, utilizing only hilltops and adjacent hillside vines.

Whole clusters are inconsistent with stylistic goals due to the change in overall balance presented by stem tannins. Currently, Dehlinger uses 50% gently destemmed whole berries in open-top redwood fermenters with twice daily manual punchdown. The technique produces a wine with richer mouthfeel and an en-

hanced black cherry component.

Vineyards

Vineyards in Sebastopol are eight- and 16-years-old. They are mostly T-top trellis. Experimentation with a lyre system has led to a commitment to total lyre conversion as resources permit.

Soils are Goldridge fine sandy loam over Altamont silty clay loam of varying proportions and depths. Excessive vigor and overly-vegetative fruit is experienced in the richest soils. The winery has identified these characteristics as 'pine, fir' and red peppers.

Canopy manipulation, trellis adjustment, and later harvesting are employed to reduce these characteristics. Batches of wine showing these characteristics are not used in the masterblend.

Dry-farmed vines, spaced 8x10 on AXR-1 from the Smith-Madrone mother block, are pruned in January and February. The number of buds left depends on vine capacity and the vineyard manager's perception of balance for a particular slope. Vines are currently either cane-pruned or cordon-pruned or undergoing conversion to a quadrilateral cordon for a lyre trellis. Yields average four to five tons/acre.

Laterals are removed. In May head suckering and leaf removal at set and post-set are done. Shoots are not tied on mature vines. Some shoot positioning is necessary with the lyre trellis.

To control powdery mildew, sulfur is used before bloom. Sterile inhibitors are sprayed post-bloom. Safer Soap and Pyrenone are insect controls when needed.

Grapes are picked by flavor, Brix, and pH. A typical composition is 23.8° Brix, 0.60 TA, and 3.45 pH.

Winemaking

Within 24 hours of filling the fermenter, active dry UCD #595, Prise de Mousse, or Pasteur Red yeast is used as the inoculum at 1-lb/1,000 gal. DAP is added occasionally in response to H_2S given off during fermentation.

Acidulation is generally not needed, but when required, it is done in the fermenter to a level yielding a pH near or below 3.6 when the wine finishes MLF.

Maximum cap temperature after a twice daily punchdown is 90°F. The wine is pressed at dryness, usually in six to 10 days from the start of fermentation.

Press wine is not used in the main blend. It is blended with other fermentation lots considered inferior.

First SO_2 additions of 45 ppm are made following MLF completion. Within a few days of draining the fermenters, unclarified wine is transferred to French oak puncheons. The barrel regime lasts 24 to 30 months. During this time, the wine is racked (occasionally with aeration) several times, and free SO_2 levels are mainted at 30 ppm.

Prior to filtration and bottling, the wine is egg white fined (two to four eggs/barrel) and racked in six to ten weeks. When bottled, the wine has SO_2 levels of 30 to 32 ppm free and 80 ppm total, 0.60 TA, and 3.5 pH. It is aged ten months prior to release.

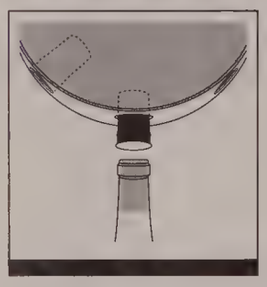
Tasting notes: **1988 Dehlinger**
Cabernet Sauvignon, Russian River Valley

Color/Aroma: Medium dark red with solid purple hues. Dusty, ripe berry and cassis, cherries, mint, oaky toastiness, roasted red bellpepper.

Flavors: Mirror aromas with addition of ripe plums and grapiness.

Balance/Finish: Significant drying tannins, thin middle but fruit remains major component, firm acidity, needs time.

CAPSULING KNOW-HOW



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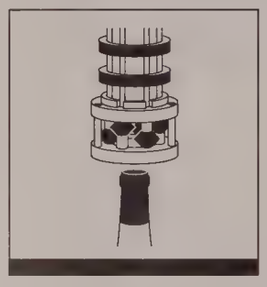

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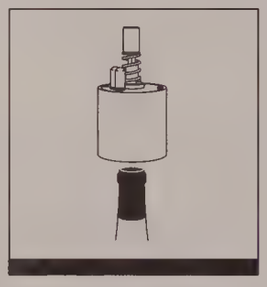

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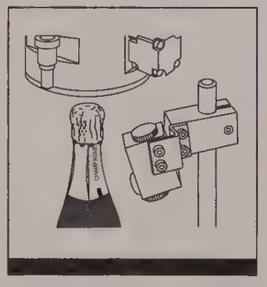

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❖ Gundlach-Bundschu Winery ❖

Vineburg, CA • Lance Cutler, Winemaker

Style

Powerfully balanced wines with abundant fruit, body, alcohol, and tannin is the goal at Gundlach-Bundschu. However, Cutler contends that some years, such as 1988, hinder a winery's efforts.

Achieving Complexity

Fermentation is allowed to hit 80°to 85°F before being lowered to 75°F to intensify fruitiness. The wine has skin contact for two weeks. Press and free run juice are kept together.

Only maceration helps in the attempt to make a big, powerful, tannic wine in Cutler's opinion. Inclusion of whole clusters and whole berries does not.

The winery purchases barrels from four different coopers on a five-year rotating program. American oak is 20% of the cooperage.

Vineyards

Cutler reports that the winery's consistently preferred blocks are those located on the gentle slopes of the Mayacamas mountains. In cool vintages, those vines in the swails, where soil is 17 inches or deeper, display an herbaceous character.

Drip irrigation is used on slopes and shallow soils. Swails and deeper soils are dry-farmed. From Spring to August, the potentiometer is kept in the 65 to 95cL range.

Both cane- and cordon-trained 20-year-old vines, spaced 7x12, are planted on St. George and AXR-1 roootstock. Two-wire vertical trellising is the norm. Where vigor is excessive, moveable wires are used to lift the canes to keep vegetation above the grape clusters.

In December or earlier if possible, canes are pruned to a total of two with four replacement spurs. Twelve to 14 buds are kept. Cordons are left with 14 two-bud spurs.

Sulfur is used to prevent powdery mildew as necessary. The first two dustings are made with 20-lb/acre. The application rate is reduced to 10-lb/acre after July 20. Applications are made at ten to 14-day intervals.

Vines are suckered six weeks after bud break. Crop levels average 2.8 to 3.5 tons/acre.

Picking decisions are based on Brix levels in relation to pH. A typical window is 23.5°to 24.5° Brix, 0.70 to 0.90 TA, and 3.4 to 3.6 pH.

Winemaking

Immediately after crushing, must is inoculated with Champagne Pasteur active dry yeast. Fermentation completes in 12 to 16 days in closed-top fermenters that are pumped over twice daily.

Upon MLF completion, the wine is acidulated to 0.60/0.65 TA and 50 ppm of SO_2 is added. Unclarified wine goes to barrel in the period of February to June following harvest for 12 to 18 months. The wine is racked once at the end of the ageing period.

Prior to bottling in July or August, two years from harvest, the wine is polish D.E. filtered. SO_2 levels are 20 to 30 ppm free and 70 to 90 ppm total with a TA of 0.60 to 0.62 and pH between 3.4 and 3.6.

The wine is bottle aged three years prior to release.

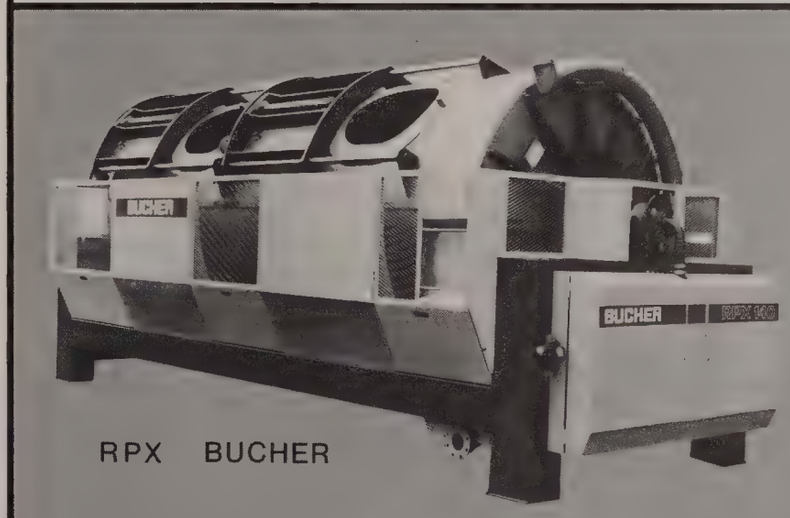
Tasting notes: **1988 Gundlach-Bundschu *Cabernet Sauvignon, Rhinefarm Vineyards***

Color/Aroma: Medium depth with purple and ruby hues. Chocolate, cherry, cassis, broad interesting spice, cinnamon, toasty, dusty, raspberry jam, caramel hints.

Flavors: Cherry, ripe fruit, rich chocolate, coffee, complex and substantial.

Balance/Finish: Lengthy, full-bodied, good fruit retention, some green tannin, eminently ageable, big style.

BUCHER



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❖ Kathryn Kennedy Winery ❖

Saratoga, CA • Marty Mathis, Winemaker

Style

A big, concentrated, 'old California' style Cabernet Sauvignon is the stylistic goal at Kathryn Kennedy. Mathis reports that the winery seeks to maximize the expression of their location (foothills of Saratoga on the inland side of the Santa Cruz Mountains) and allow vintage variation to carry through to the bottle. Wine refinement is attained from several years of bottle age.

Achieving Complexity

Mathis explains four points in his efforts: Diversity in all aspects of wine development is encouraged — specifically in the vineyard, at harvest, during fermentation, and during barrel ageing.

Kathryn Kennedy estate vineyard, while being a contiguous block, has rolling hills and varying soil which manifests itself in varied vine conditions. Mathis believes that it is this variation in vine condition which accounts most for complexity in the finished wine.

From the writings of Martin Ray, Mathis learned the practice of harvesting some blocks as far as two weeks apart. When 'two harvests' are fermented separately, it later allows a 'blending' potential.

Varying the length of skin contact for some fermentation lots creates different qualities and using both French and American oak adds complexing elements.

At Kathryn Kennedy, a 'hands off' cellar policy has been adopted. The wine is bottled completely unfiltered. In conclusion, Mathis maintains that a winery has a better chance of producing a complex Cabernet if it is made in the full-blown, 'big style' with high extract and full alcohol.

Vineyards

The 9.5 acres of estate vineyards in the foothills of the Santa Cruz Mountains are at an elevation of 400 ft. Average vine age of the original eight acres is 19 years. The additional 1.5 acres is not yet four-years-old. Self-rooted vines in east-west facing rows are spaced 8x12 with one fruiting wire 42 inches above ground and two foliage wires on a south-facing 45° cross-arm.

Until 1991, the vineyard was dry-farmed and unfertilized. Then, both sprinkler (in some blocks) and drip in others was installed and foliar and soil application of a balanced formula was made. About 90% of the irrigation takes place November through April.

The vertical cordon with quadrilateral canes is pruned to eight renewal spurs/four canes with 10 to 20 buds each.

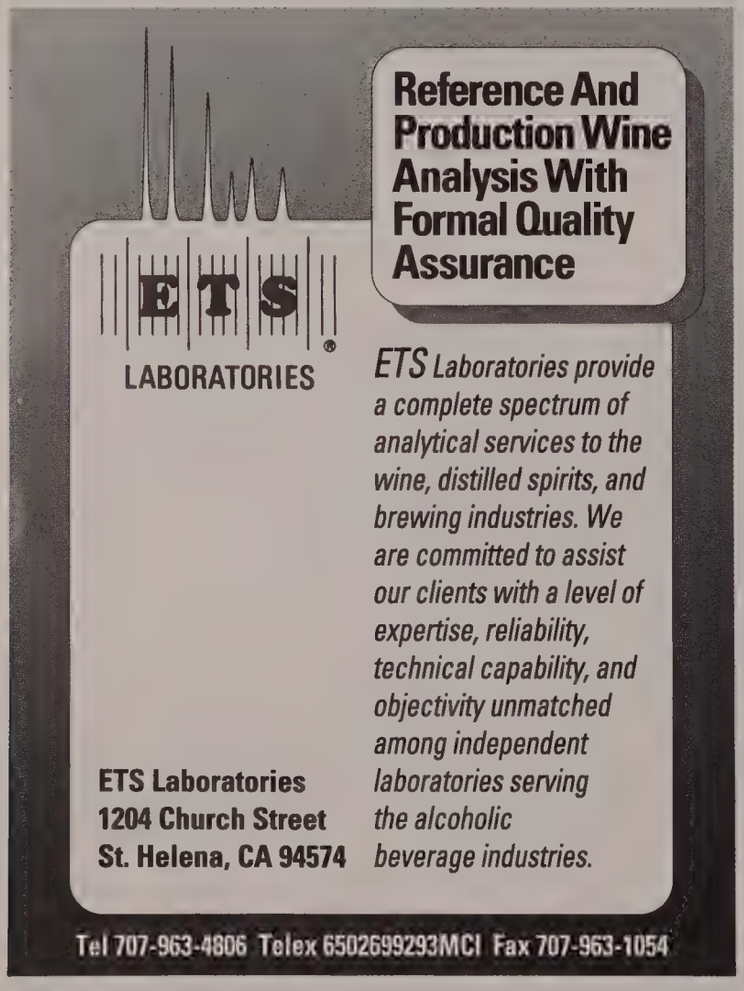
Since vine vigor is low, the resulting foliage requires neither leaf removal nor hedging. About 40% of vines are Eutypa-infected. Yield averages 1.5 tons/acre. In 1988, the crop level was ½-ton/acre.

To control powdery mildew, one to two sulfur dustings and one application of Bayleton is made.

The most important harvest parameter is pH followed by TA, texture and taste, vine appearance, bird damage, and lastly, Brix. Typical harvest parameters are: 21° to 24°Brix, 0.65 to 0.90 TA, and 3.3 to 3.5 pH.

Winemaking

Widely spaced rollers on the crusher allow about 20% whole berries to pass through. The must is almost never acidulated and Mathis has strong negative reactions to the practice.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Within four hours of crushing, 0.8-lb/1,000 gal of UCD #595 active dry yeast is added. During fermentation in open top fermenters, maximum juice temperature is 85°F with a maximum cap temperature of 90°F. A 5-minute punchdown is done three times/day. After 12 days, the wine is pressed in a two-ton, vertical basket press. Press wine is added back.

SO_2 is added after MLF at 30 ppm. Wine goes to barrel within 24 hours after pressing. During the 17-month barrel regime, wine is racked every four to five months. Free SO_2 levels are maintained at 25 to 30 ppm.

Before bottling, the wine is egg-white fined with two to four eggs/barrel and is racked after settling one month. The wine is bottled unfiltered; filtered only in the case of an incomplete MLF.

The wine is bottled between April and June of the second spring at 15 ppm free SO_2 and 85 to 95 ppm total, 0.60 to 0.75 TA, and 3.5 to 3.58 pH and released in about 1½ years.

Tasting notes:* 1988 Kathryn Kennedy *Cabernet Sauvignon, Santa Cruz Mountains

Color/Aroma: Medium dark red. Cherry, cedar, spice, toasty oak, vanilla, dusty, earthy, rich and complex, chocolate, raisins.

Flavors: Cherry, slightly overripe fruit, raisins, currants, distinctive and lean.

Balance/Finish: Drying tannins, jammy fruit, very extracted; interesting development in glass. Needs airing in glass to open up.

❖ J. Lohr Estates ❖

San Jose, CA • Jeff Runquist, Winemaker

Style

J. Lohr is committed to having the wine reflect the flavors of the region in which the grapes are grown. From Paso Robles this means the style will be one of distinctively forward fruit and relatively soft tannins.

Achieving Complexity

The wine is produced from a number of different vineyards with varying microclimates and soil types. Ageing in both French and American oak enhances complexity. Stylistically, Paso Robles regional flavors are the centerpiece and primary focus.

Complexity, while desired, is not pursued at the expense of regional Paso Robles flavors.

Vineyards

Vines just coming into production and those 14 to 16 years old are spaced 6x10 and 7x11 on the Estrella Plains east of Highway 101 in Paso Robles. Some vines are self-rooted and others are on 5-C and Chenin Blanc rootstock.

Dual-emitter drip irrigation is installed and delivers 0.5 gal/hour. Water is applied via visual assessment, neutron probe, or infrared data.

Soils are sandy-clay and sandy loam with a two to five-foot depth on top of calcareous sub-soil.

Training is on two-wire vertical trellis, Geneva Double Curtain without rake wires, and three-wire vertical canopy achieved via two sets of lift wires.

Three to four canes with four to six renewal spurs and 14 to 16 buds/cane remain after pruning in February or March. Vines are suckered in the pre-bloom period. Lift wires are moved with cane growth. The first set is moved about June 1, at a 24-inch growth. The second set is moved in mid-July.

To control powdery mildew, two applications each of sulfur, Rally, and Rubigan are made. One Dimethoate application counters leaf hoppers.

Current crop levels are four to five tons/acre. It is expected that newer plantings

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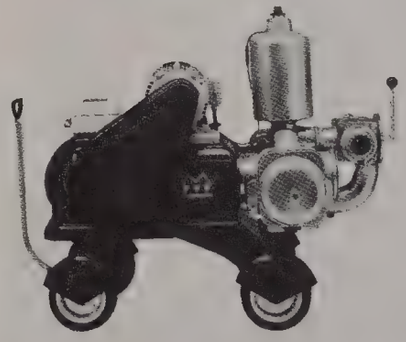

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will yield five to six tons/acre at maturity.

Grapes are picked after assessment of flavor, color, texture, Brix and TA, in that order. The average targets are approximately 23.8°Brix, 0.70 TA, and 3.4 pH.

Winemaking

The evening following crush, must is inoculated with 2-lb/1,000 gal active dry Montrachet yeast. Semi open-top fermenters reach a maximum juice and cap temperature of 85°F during a fermentation lasting four to six days.

Twice daily, from ⅓ to ⅔ of the juice is pumped over the cap for 20 to 30 minutes with a 100 gal/min pump.

At Brix levels of zero to four, the wine is pressed with press wine added back.

Acidulation to 3.45 pH may occur in the pre-fermentation period. Post MLF, adjustments to 3.5 to 3.55 pH are made. If required, the wine is given a gelatin fining post-fermentation.

Post-MLF, the first SO_2 addition of 50 ppm is made. To minimize microbial activity, the wine is give a coarse D.E. filtration before going to barrel in the spring following harvest. It remains in a mix of American and French barrels (average three years old) for 14 to 18 months. In barrel, free SO_2 levels are maintained at 25 to 45 ppm.

Wine is bottled in the second spring following harvest with SO_2 levels of 26 ppm free and 100 to 120 ppm total, 0.73 TA, and 3.38 pH. The bottle ageing program is three to six months prior to release.

Tasting notes: **1988 J. Lohr Estates *Seven Oaks Paso Robles Cabernet Sauvignon***

Color/Aroma: Medium red. Black cherry, blackberry, cinnamon spice, black olive, cassis, ripe fruit, spicy, buttery oak, popcorn, MLF aromas, smoky oak.

Flavors: Black olives, tar, currants, cherries, berries, green weeds.

Balance/Finish: Future uncertain, too much oak; may not have enough fruit to survive.

❖ Sequoia Grove Vineyards ❖

Napa, CA • James Allen, Winemaker

Style

While seeking elegance, Sequoia Grove is striving for big, upfront fruit, a full mouthfeel, and long but gentle finish.

Achieving Complexity

Allen points to four complexing techniques: Gentle pressing and pumpovers; some whole berry fermentation; the first six to eight months of ageing in French oak uprights, and blending Cabernet Sauvignon fruit from other soils and microclimates.

Vineyards

Eight-year-old vines, spaced 7x10 in slightly gravelly soil, are planted in Rutherford on AXR-1 rootstock. They are trained on a three-wire trellis with one fruiting wire. Two wires are positioned on 20-inch wide crossarms.

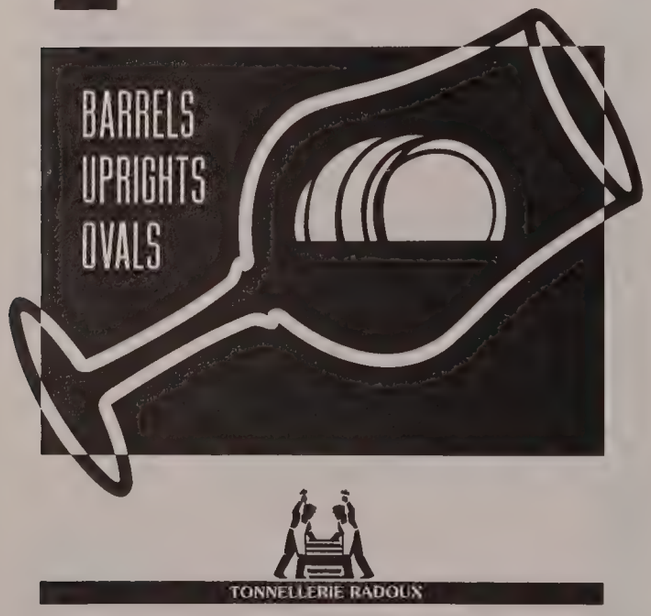
In March, the vines are cordon-pruned with six to seven two-bud spurs/side for a total of 12 to 14 spurs. Suckering is done in June. Throughout the growing season, all shoots are placed between cross-arm wires to promote vertical growth.

Seven or eight different clonal selections, all drip-irrigated, currently yield 4.5 to five tons/acre. The vines receive 15 gal of water/month during June and July.

Between May 1 and July 1, vines are sulfur-dusted every two weeks. Occasionally, Bayleton is used in early July.

The principal picking criterion is Brix. A typical harvest window is 22° to 23° Brix,

FRENCH OAK



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0.60 to 0.75 TA, and 3.35 to 3.50 pH.

Winemaking

Approximately 30% to 40% whole berries are fermented to capture some of the fresh, sweet fruit flavors. Immediately after crushing, inoculation with 1-lb/1,000 gal active dry Prise de Mousse yeast occurs.

If necessary, the wine is acidulated to between 0.65 and 0.70 TA at the beginning of fermentation. In a closed top fermenter, where juice temperature peaks at 85°F and maximum cap temperature is 90°F, fermentation completes in seven days. A gentle spray wets the cap three times daily. At dryness, the wine is pressed immediately.

The first addition of 50 ppm SO_2 is made after MLF completion. In May following the harvest, the wine is barreled unclarified in one to five-year-old Troncais, Nevers, and Allier oak from France for 12 to 14 months.

The wine is racked without aeration in the following July, September, December, and March. Free SO_2 levels are maintained at 20 ppm.

Two months prior to bottling, the wine is fined with egg whites (one to two-lb. of eggs/1,000 gal) and gelatin (⅛ to ¼ lb/1,000 gal).

Prior to bottling in the second July from harvest, the wine is D.E. polish filtered. An 0.45*u* membrane is ahead of the filler at bottling. The finished wine has SO_2 levels of 20 to 25 ppm free and 60 to 70 ppm total. TA is 0.59 with 3.66 pH.

The wine is released after one year of bottle-ageing.

Tasting notes: **1988 Sequoia Grove Vyrds *Cabernet Sauvignon, Napa Valley***

Color/Aroma: Deep, inky red. Intriquing aromatics, black currants, blackberry, cedary spice, mint, toasty oak, slight bellpepper, olive, smoky hints.

Flavors: Ripe currants, cherries, cedary spice, complex variety of flavors, big, rich extracted.

Balance/Finish: Moderate astringency, lingering oak and spice, a 'come hither' style, distinctive and assertive, complex blockbuster style with superb structure.

❖ Shafer Vineyards ❖

Napa, CA • Doug Shafer/Elias Fernandez

Style

Shafer's aim is to produce a wine which accents the characteristics of fruit grown in the Stags Leap District. This is an intensely varietal wine with the classic, rich, silky tannin often found in this unique microclimate.

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Achieving Complexity

Multiple clonal selections is the primary complexing element. Clones such as Bella Oaks and Eisele have inherently different characteristics, which when blended, produce a wine with immense complexity and interest.

Secondarily, subtle layers of complexity are achieved by the choice of French oak used during the two-year barrel ageing.

Because Shafer ages the wine two years in the bottle prior to release, it has developed additional interest due to bottle bouquet.

Vineyards

Ten-year-old vines, spaced 8x12 on thin volcanic origin soils, are located in the Stags Leap District of Napa Valley. They are trained on a two-wire vertical trellis and pruned in January to two or three canes (12 buds each) and two or three spurs (2 buds each). Both St. George and AXR-1 rootstock were used. Average yield from drip-irrigated vines is two to three tons/acre. Every 10 to 12 days, 16-gal of water is added up to two to five weeks before harvest.

One wettable sulfur spray is applied at four to six inch inches of shoot growth. Before bloom, two or three sulfur dustings are done. Post-bloom, two to three applications of systemic sprays (Bayleton, Rubigan, etc.) are made.

Yearly, petiole analysis is performed to assess proper levels of nutrients to support normal growth. If a vineyard is determined to be deficient in nutrients, appropriate additions are applied.

Picking judgments are made on the basis of flavorful grapes and vine condition. Harvest goals are 23° Brix, 0.60 to 0.70 TA, and 3.5 to 3.6 pH.

Winemaking

At the crusher, about 95% berry maceration occurs for maximum extraction. SO_2 is added at 30 ppm. The day after, 2-lbs/1,000 gal active dry Prise de Mousse is added. If needed, DAP at 1-lb/1,000 gal is added.

Maximum juice temperature in closed-top fermenters reaches 80°F with a maximum cap temperature of 85°F. Sprinklers are used twice daily to wet the cap. The wine is pressed 7 to 28 days after crushing.

The tank is drained and skins are shoveled into bins which are dumped into the press. Skins are pressed for 1.5 hours up to 2 Bars. The press wine is added to free run.

Three months after harvest, unfiltered wine is barreled in new to five-year-old French oak for 24 months. SO_2 levels are maintained at 25 to 30 ppm free and 80 to 90 ppm total. The wine is racked quarterly without aeration.

Near the end of the barrel regime, one to two egg whites per barrel are used as the fining agent. At bottling (2.5 years from harvest) the wine is filtered through rough pads. SO_2 levels are 25 to 30 ppm free and 80 to 90 ppm total with 0.60 TA and pH 3.5 to 3.6.

The wine is bottled-aged two years prior to release.

Tasting notes: **1988 Shafer Vineyards**
Hillside Select Cabernet Sauvignon

Color/Aroma: Deep, dark red. Sweet ripe raspberry, cherries, toasty oak, slightly cedary.

Flavors: Explosive raspberry, cherry, plum, juicy, rich smoky oak, rich dark chocolatey lushness.

Balance/Finish: Lingering with berry, oak and smoke, well-balanced, soft and full, rich and layered, ageable and right on the mark.

❖ Rodney Strong Vineyards ❖

Windsor, CA • Rick Sayre, Winemaker
Klein Family Vintners

Style

Alexander's Crown, a vineyard-designated wine under the Rodney Strong label owned by Klein Family Vintners, is a wine of elegance and restraint. It has considerable texture, body, ageing potential, and a long finish. It showcases substantial black cherry and cassis flavors punctuated with hints of cedar. It is rich and supple with a firm tannin core.

Achieving Complexity

Complexing is best achieved by selection of blocks within the vineyard, maturity at time of harvest, fruit manipulation during vinification, and a good barrel-ageing regime.

Blending varietals has its merits, but is not an end in itself. Many different winemaking techniques applied to sub-lots from the same vineyard can produce nuances that can be blended back later in the master blend.

Vineyards

Alexander's Crown is a prominent Alexander Valley hillside location with mostly red, iron oxide clay adobe, black adobe, and patches of clay loam soil mixed in.

In 1971, vines were planted 8x12 on AXR-1 rootstock. They are principally spur and cane-pruned with some cordon on a two-wire vertical trellis.

In early winter, vines are pruned to two to four canes with an average of 52 buds/vine. Cordoned vines have an average bud count of 64.

Drip irrigation is used sparingly; each soil type is monitored and evaluated separately. Vines are suckered and leaves are pulled to open the fruit zone. A ten-year yield average is three tons/acre.

A sulfur dusting and Bayleton spray program is used to prevent powdery mildew.

Harvest decisions are made based on Brix, maturity, and berry flavors. Typically, the composition is 22.5° to 23° Brix, 0.60 to 0.80 TA, and 3.4 to 3.6 pH.

Winemaking

To improve fruitiness, approximately 30% whole berries are added. Must acidulation is done prior to fermentation, depending on taste and mouthfeel and 30 ppm SO_2 is added. On the day following crush, 0.5% liquid Pasteur Red yeast is added. DAP is added as needed, generally at 0.5 to 1-lb/1,000 gal.

Closed-top fermenters are used. Maximum juice temperature reaches 75°to 80°F with the cap maximum at 85° to 90°F. Three times daily, the wine is pumped over for one hour.

After dryness and "when the wine tastes right," it is pressed, an average of 10 days of extended maceration.

As soon as possible after MLF completes, the wine is put to barrel. Some vintages are filtered before barreling, depending on the taste, clarity, and tannin structure. The wine remains in a mix of 75% French and 25% American oak (⅓ new, ⅓ one-year-old) barrels for 18 to 24 months. SO_2 levels are maintained at 20 to 30 ppm free and approximately 50 ppm total. The wine is racked as needed, usually with aeration.

Decisions on clarification and filtering vary with the vintage. Wine may remain unfined or depending on bench trials, fining with egg white or gelatin may occur. D.E. filtration is done if needed and an EK pad filtration is done at bottling.

Bottled wine is generally 20 to 25 ppm free SO_2 and 60 to 85 ppm total. TA is about 0.55 to 0.60 with 3.6 pH.

The wine is bottle-aged one year prior to release.

Tasting notes: **1988 Rodney Strong**
Alexander's Crown Vineyard, Alexander Valley

Color/Aroma: Medium red. Cherry, cassis, strong oak with slightly charred hints, bacon, smoky, cinnamon, clove.

Flavors: Juniper berry, bright cherry, berry, cinnamon spice, coffee, intense and dense.

Balance/Finish: Good length, complex, elegant, but lighter body style; oaky.

PWV *thanks Cakebread Cellars for hosting the tasting and the following winemakers for their participation in the tasting session: Joel Aiken, Beaulieu Vineyard; Bruce Cakebread and Julianne Laks, Cakebread Cellars; Lance Cutler, Gundlach Bundschu Winery; Marty Mathis, Kathryn Kennedy Winery; Jeff Runquist, J. Lohr Estates; Jim Allen, Sequoia Grove Vineyards, Elias Fernandez, Shafer Vineyards; Carol Shelton, Rodney Strong and Klein Family Vintners.* ■

Bottling equipment

Carlsen & Associates

The case turner-flipper-flipper is one of many conveyor systems Carlsen & Associates has designed, manufactured, and installed in the wine industry. In this particular instance we designed a system that would both rotate a case 90° so that the end could be imprinted and also flip the case over for neck-down orientation.

We understand the need to design bot-

tling systems to each wineries specific requirements and offer design, manufacturing, and installation services. We also offer the design and installation of electrical control schemes utilizing both electro-mechanical and solid-state devices. Our product line for bottling equipment includes unscrambler tables, packoff tables, bottle conveyors, and case conveyors as well as the case turner-flipper-flipper.

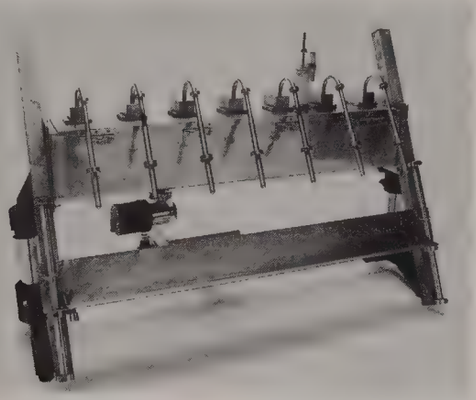
For more information, contact: **Carlsen & Associates,** 5228 Aero Drive, Santa Rosa, CA 95403, tel: 707/576-0632, fax: 707/576-7698.

Please see our ad on page 6.

The Compleat Winemaker

Individual heater heads for PVC heat shrink capsules are new equipment designed and built by The Compleat Winemaker. These heads mount easily and quickly on existing single or multiple head automatic foil spinners. Each head is mounted on a safety air cylinder to protect bottles from overheating when automatic operation is interrupted for any reason. The same heater heads are used for single and two head semi-automatic machines. All components are manufactured in the USA. These heater heads can operate at a higher speed than foil spinners so there is no loss in bottling speeds. Heads are available for 120, 240, or 480 volts.

For bottling, The Compleat Winemaker designs and builds a seven spout table top stainless steel bottle filler for bottles from 6½" to 23" high. The spouts are removable for easy cleaning. The fill valve is pneumatically operated and fills up to 60 cases per hour.



Also designed and built by The Compleat Winemaker, is a bottle washer purger. The two nozzle semi-automatic machine has a production rate of 24 bpm with height and angle adjustment. The sequence is initiated by a micro-sensing switch sensing the bottles in place on nozzles.

Foil spinners and champagne foil Crimperstosa MECC (Italy) are also available. Potdevin and Schaefer label pasters are reliable labelers for small wineries.

For more information, contact: **The Compleat Winemaker,** 955 Vintage Ave., St. Helena, CA 94574, tel: 707/963-9681 fax: 707/963-7739.

Please see our ad on page 55.

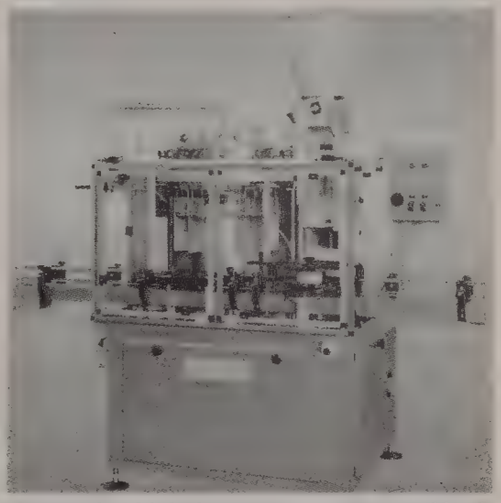
Criveller Company

Criveller Company has supplied equipment for wine bottling (especially in the small to medium-size wineries) since 1979. Pressure fillers, capping machines, or monoblocs are available.

A very small and compact pressure-filling monobloc with 12 spouts plus one capping head can be supplied with pre-evacuation to reduce the oxygen content in the bottled product. The unit is compact in its dimensions, very functional, extremely easy to operate, and priced right.

This unit, specifically designed for the small/medium winery, can be supplied with a self-powered bottle conveyor track or it can be inserted in an existing bottling line.

Monoblocs for still wine are also supplied by Criveller Company and any other components related to the bottling of still wine.



Standard labeling equipment or self-adhesive labellers are available along with the semi-automatic line of equipment, offering a wide choice to the wine industry.

All sales are backed by excellent service provided by factory-trained technical personnel. Spare parts are kept in stock at our Niagara Falls warehouse. References of customers using Criveller bottling equipment are available.

For information and references, contact: **Criveller Company,** 6935 Oakwood Dr., Niagara Falls, Ont. L2E6S5 tel: 416/357-2930, fax: 416/374-2930.

Please see our ad on page 8.

Enotech Corporation

Enotech offers a complete line of capsuling equipment, including heat-shrinking equipment, capsule applicators, and latest-in-design capsule spinners specifically suited for the new, harder alloy tin and aluminum capsules. The available range is from 1-head semi-automatic to 30-head automatic machines up to 400 bpm. Capsule spinners and heat-shrinkers can be combined with capsule applicators and furnished as monobloc machines.

Enotech also represents Geo. J. Meyer Manufacturing of Charleston, S.C. for the new ALFA QUATTRO F-Series rotary wet glue and pressure-sensitive labelers. These modern, heavy-duty labelers can handle demanding label applications, including neck-wraps, neck- medallions, and mechanically or photo-electrically oriented labels on sparkling wine bottles.

For more information, contact: **Enotech Corp.,** P.O. Box 576, Palo Alto, CA 94302, tel: 415/851-2034, fax: 415/851-2040

Please see our ad on page 22.

Estate Bottling

Estate Bottling has served California wineries with its mobile bottling services since 1983. The 45-ft bottling van, pulled by its own tractor, incorporates a sterile, positive-pressure bottling room with a modern, well-maintained, custom-designed bottling line. It features a front and back label capacity (with a solid glue pattern) on traditional cork finished 1.5l, 750ml and 375ml bottles. A broad range of label sizes can be handled without special change parts and a strip back label for the government warning can be applied in lieu of the regular back label.

A machine room in the front of the van contains air-conditioning, air and water filtration equipment, air compressor, diesel generator, water softener and heater.

Estate Bottling takes pride in making each bottling a smooth, clean, efficient and courteous experience. All the winery has to do is supply a crew of six, a fork lift, polish-filtered wine, corks, capsules, labels, glass, water and power. Estate Bottling will sterile-filter, gas-sparge, gravity-fill, vacuum-cork, foil and apply a front and back label to 1,500 cases/day. Sterility is guaranteed.

In January 1992, Estate Bottling has added a 36" long heat-shrink tunnel for PVC or PET capsules.

For more information, contact: **Estate Bottling,** P.O. Box 338, Rutherford, CA 94573, tel: 707/963-5705.

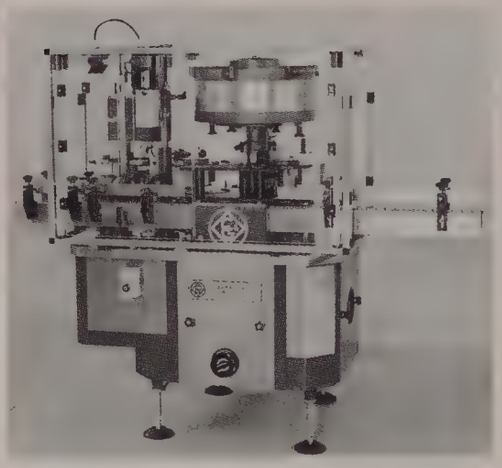
Please see our ad on page 52

fp Packaging

The new Cavagnino and Gatti PS series labelers for application of pressure sensitive labels (speeds 40-100 bpm) are available exclusively in the USA from fp Packaging, Inc. The heart of the CG PS machine is a dispenser operated by a step motor and electronically controlled to guarantee precision label placement. The system eliminates the need for conventional photocell detection systems which require adjustment for each bottle size used.

The labeler is available in both an in-line version for front or front/ back label application (the latter requiring labels printed in alternating sequence on the strip) and a rotary version for application of multiple labels. In addition, special machines combining both wet glue stations and pressure sensitive label stations are available on request.

For the smaller operation, the CG 80/ 2PS-4 pressure sensitive labeler (speed-



25 bpm) is a monoblock with a capsule spinner or a heat shrink head. All machines come standard with safety guards.

For more information, contact: **fp Packaging, Inc.,** 385 Oyster Point #3, South San Francisco, CA 94083-0881, tel: 415/ 742-5400, fax: 415/ 871-5950.

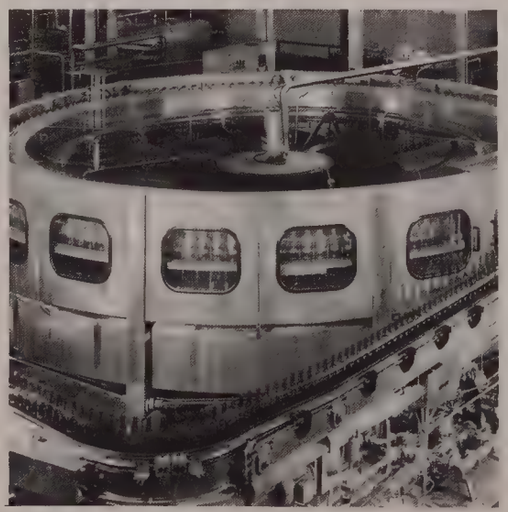
Please see our ad on page 2.

KHSMachines (formerly SEN Machines)

KHS manufactures a complete range of liquid filling machines for the beverage industry. Our extensive product range includes vacuum/gravity, isobarometric (gravity), and counter-pressure filling systems.

KHS has developed two state-of-the-art fillers which have become standard in the European wine, beer, and juice industry. To date there are more than 180 fillers in operation worldwide, with five machines installed in the California wine industry.

The Rola-Tronic and Compacta-Tronic fillers both offer electronically-operated filling valves. The valves are fitted with a long tube system which provides very fast filling speeds; with low CO_2 loss, very low O_2 pickup, and central adjustable fill height control.



The Rola-Tronic is a counter-pressure machine designed for filling wine or other beverages with a CO_2 content of over 2g/L. Due to the unique features of the Rola-Tronic system, warm filling of sparkling wine (55°F) is possible without loss of CO_2.

The Compacta-Tronic isobarometric filler also offers an electronically-controlled, long tube filling system, except the liquid is filled at atmospheric pressure via gravity. The gentle bottom filling results in very low O_2 pickup, and allows wine CO_2 of up to 3g/L.

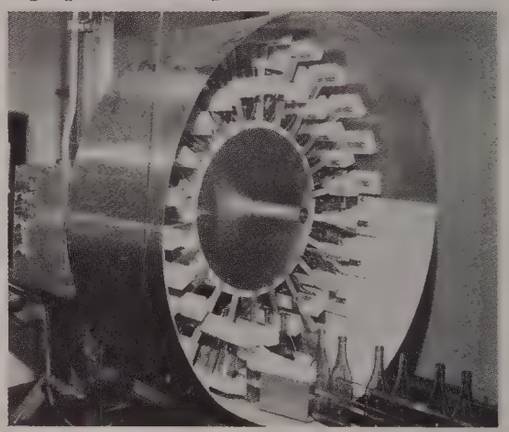
Very low O_2 pickup is obtained without additional inert gas sparging of either the bottle or the wine.

For more information, contact: **KHS Machines, Inc.,** 1350 Industrial Ave., Suite G, Petaluma, CA 94952, tel: 707/763-4844, fax: 707/763-6997.

Please see our ad, page 41.

McBrady Engineering, Inc.

For 1992, McBrady Engineering introduces the Model #40 ORBIT Bottle Cleaner/Gas Injector, the 5th model in the line. The #40 is a low cost unit with a top speed of 40 bpm.



The full line of McBrady ORBIT Bottle Cleaners feature: 5 models to choose from, speeds of 20 to 200 bpm, rental change parts, and water rinsers/gas injectors.

There are over 65 Bottle Cleaning/Inert Gas Injection machines installed in wineries. McBrady Engineering has 22 years of experience in building bottle cleaners and has an ORBIT Cleaner to fit your needs.

For more information, contact: **McBrady Engineering, Inc.,** P.O. Box 204, E. Hazel Crest, IL 60429, tel: 708/798-6565, fax: 708/798-6595.

Please see our ad on page 42.

Mobile Wine Line

Dan Drummond's Mobile Wine Line was the first portable bottling service in Cali-

fornia operating since 1979. It's target market is smaller wineries; producing from 800 to 25,000 cases per year. The equipment is in a self-contained 40-foot tractor-trailer, allowing it access to most wineries. It operates on 220 3-phase or 440 volt power, but will provide it if needed.

The equipment is of dependable German and American manufacture and consists of:

- Custom loading table
- McBrady Orbit Bottle Sparger
- Seitz Fulla 12-spout vacuum filler/corker
- Otto Sick automatic polylaminate/tin foil spinner
- Afseal heat shrink tunnel
- Mustang II New Jersey Machine labeler
- Secondary label press
- 3M Scotch Tape case sealer/printer

A consulting enologist is available and sterility of the wine is guaranteed.

The winery needs to provide a minimum of six personnel: two to apply the capsules, one person to feed empty glass, one person to box full bottles, one person to palletize finished product and one person to operate the forklift. The winery can now crush, ferment, age, and bottle their wine on the same property: "estate bottled".

For more information, contact: **Mobile Wine Line,** 9601 Robson Road, Galt, CA 95632, tel: 209/745-2871.

Prospero Equipment Corp. Associated Winery Systems, Inc.

The new GAI 5004 and 5008 Exterior Bottle Washers are specially designed for cleaning the exterior of bottles of cellar aged wine and Champagne. These machines are for the producer of fine wines who desires the absolute best in product presentation. Scrubbing is done by rotating brushes on the sides, top and bottom. Specially shaped brushes can easily be installed for bottles with unusual shapes. Bottles are dried by means of revolving scrapers and high volume air knives.

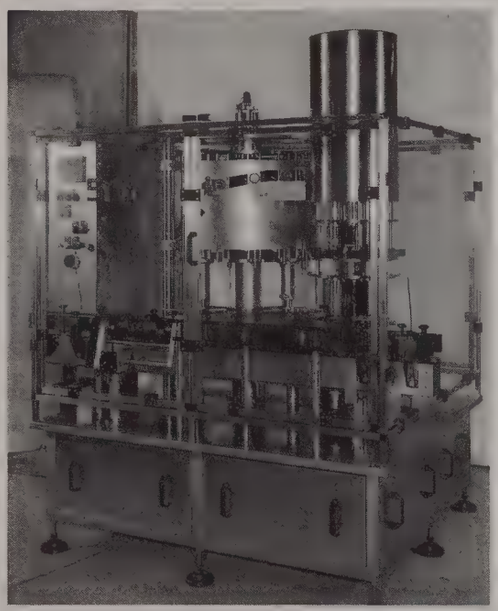
The machines are completely built of stainless steel and specially engineered plastics to eliminate corrosion. The model 5004 can clean 750 to 2000 bph, the larger 5008 cleans 1500 to 4000 bph. On both models, the speed is fully adjustable and bottle sizes can be quickly changed.

At the SIMI show, PEC introduced monoblocks with productions of 80 and 100 bpm and matching rinsers using a new ozone bottle sterilizing system.

For more information, contact: **Associated Winery Systems, Inc.,** (West Coast representative) 7714 Bell Road, Windsor, CA 95492, tel: 800/228-0664 or **Prospero Equipment Corp.,** (East Coast representative) tel: 800/332-2219.

SMB Technik

SMB Technik manufactures monobloc filler/closer combinations for both still wine and champagne producers. Speed



ranges are up to 100 bottles/minute.

The still wine fillers have several innovative features. Long fill tubes are used to lower oxygen pick-up during the filling process. Also, wine is piped directly to the bottle via an internal metering pump and central distributing mechanism. There is no fill bowl nor the contamination associated with return air tubes. With the SMB design, these materials exit the machine. The machine uses a six-head closing section which can be adapted for vacuum corking, crown capping, screw capping, or just about any modern closing system.

For the sparkling wine industry, SMB provides counter-pressure filler/closer combinations of the most proven design. In addition, SMB Technik manufactures dosing units for encapsulated yeast that feature a gentle dispensing mechanism which never damages the yeast beads.

SMB equipment is German-engineered and entirely manufactured in Germany. The average experience for the machinists employed by SMB is 32 years. SMB Technik also provides spare parts for Winterwerb-Streng bottling equipment.

For more information and references: contact the American representative for SMB Technik, Mr. Bob Brakesman, tel: 707/965-2488, fax: 707/ 965-2281.

Please see our ad, page 46.

Wine Country Gases

The McBrady 2-bottle semi-automatic Bottle Purger purges bottles with inert gases such as carbon dioxide or nitrogen.

A second purge with inert gas will reduce the remaining oxygen to acceptable levels and will also eliminate cardboard dust from the bottle. The purge time is adjustable and the machine is equipped

with a start-stop switch.

Bottling line speeds of about 25 bpm can satisfactorily be achieved.

For more information, contact: **Wine Country Gases,** 3220 Santa Rosa Ave., Santa Rosa, CA 95407, tel: 707/575-8654, fax: 707/575-3949.

Breaking with tradition

Text/photos by Richard Steven Street

In California, two winegrape vineyards and two wineries are successfully pioneering techniques that depart from traditional winemaking and grape-growing practices.

Fetzer Vineyards and Redwood Valley Vineyards, in Mendocino County, are testing new mechanical techniques in conjunction with organic vitcultural practices. While still experimental, these techniques feature machines not found on any other vineyard in the U.S.

Las Montanas Winery, in Sonoma County, and Orleans Hill Winery, in Yolo County, have implemented innovative winemaking practices. Both have won medals and praise for premium red wines with no SO_2 added, despite conventional wisdom that quality, no-SO_2-added wines either are impossible to make or are rare aberrations.

Fetzer Vineyards

As part of its commitment to low-input sustainable agriculture (LISA) practices on 430 acres of Mendocino County vineyards (***PWV***, March/April 1991) [now certified organic vineyards by the California Certified Organic Farmers (CCOF) in 1992], Fetzer has obtained two radically different European machines to help minimize tillage and improve soil fertility.

One is a German 'Humus' mower/chopper. Operating off a 55-hp tractor, it simultaneously cuts under the vines and between the vine rows. It requires a standard 3-pt. tractor mount and PTO drive.

"The Humus is very `soft' on the vineyard," describes vineyard manager Steve Gallagher. "We have had no mechanical problems or damaged vines.

"The Humus is probably the most sophisticated equipment we're operating. The trip arms under the vines are activated by sensors that are both hydraulic and electric. Adjustable baffles throw organic mulch in the center of the row, or under the vines, or in both places."

Advantages include reducing at least one trip through the vineyard. The only drawbacks seem to be that this is the only machine of its kind in California, and it's metric. Consequently replacement parts are not widely available yet.

Fetzer has obtained an Italian Celli spader to break the plow pan, in certain older

Celli spader

(over 15 years) vineyards. Consisting of 10 spades on a cam-driven, sealed-bearing frame, the Celli pushes spades down at a 90° angle to the soil, then turns them 90°, throwing dirt up against a backboard. Spade depth is adjustable.

"It's the closest thing you can get to double digging," Ron Bartolucci, vineyard consultant to Fetzer Vineyards.

Used in late spring, the Celli fluffs and aerates the ground, incorporates cover crops, green manure material, vine prunings, and replaces standard discing. Late fall cultivation improves water penetration dramatically. Cultivation following mowing can fluff the soil as much as four inches in height.

At Fetzer's Valley Oaks Vineyard in Hopland, the Celli has been used to break up 'plow pan,' the hardened pressure point (6 to 8 inches below the soil surface) that is created by years of discing. The Celli not only breaks this up, it goes beyond it, to a maximum depth of 14 inches if necessary.

Heavy cover crops up to 5.5 feet high are mowed and incorporated easily into the ground. "There's just no way you can ever disc under that amount of humus material," Gallagher says.

Requiring at least a 70-hp tractor, the Celli spader, like the Humus mower, uses a standard 3-pt. tractor hitch and PTO drive.

Redwood Valley Vineyards

Redwood Valley Vineyards is testing new mechanical routines in conjunction with no-till farming on 150 acres of winegrape vines. The vineyard is being farmed according to CCOF guidelines.

Grape varieties include Cabernet

Humus mower/chopper

Sauvignon, Chardonnay, Petite Sirah, Pinot Noir, Zinfandel, Grey Riesling, Pinot Blanc, and Gewürztraminer. All vines were planted in the early 1950's following the removal of own-rooted vines which were infested with phylloxera. At that time, infested vines were removed, and St. George rootstock was planted in the same area — without fumigation or any other soil treatment. Later, the rootstock was field-budded to the above grape varieties.

Vineyard manager and owner Charles Barra obtained CCOF certification in 1990. Neither marketing considerations nor ideology motivated his conversion. "We just didn't like the liability connected with pesticides," he says. "It was more of a risk than we wanted to take."

Soils generally are good, although parts of the vineyard have a clay substrate 1 to 2 feet below the surface. Water is supplied by drip irrigation.

Composting is not done. Fertilization is accomplished with cover crops of legumes, peas, purple vetch, crimson clover, and subclover planted according to grape variety and soil type. One type of vetch is always included in the planting mix because of its ability to withstand winter freezes down to 5°F.

Experimental blocks under this regime can produce up to 6 or 7 tons/acre, but yields are adjusted to around 5 tons/acre, which is considered the optimum level between pounds/vine and optimum maturity before rains come. The vineyard is in a region II and has always been able to produce more grapes than it could consistently mature.

To avoid compaction, machinery is not driven in the vineyard during winter. In spring, cover crops are cut when they reach a height of 2.5 to 5 feet, with alternate rows disced under.

In disced rows, growth under the vines is smothered with a single blade disc that

piles dirt in a 1-foot-high ridge. A Clemens weed bar, highly modified so that the entire head — not just the blade — can be hydraulically activated, is used to knock down the berm three to four weeks later.

Barra prefers the modified Clemens weed bar to a standard hoe plow. Operated at 4-mph, it is roughly twice as fast as a hoe plow and requires a less skilled operator. Barra also pulls a disc behind the Clemens.

In no-till rows, a hand-built machine is used to mow under the vines. This machine consists of a large standard Servis rotary mower, with two side-mounted, hydraulically-powered oscillating mowers.

Custom-built mower at Redwood VV

Mounted on arms, with feeler bars, they resemble Weed Badger cultivating rotors, only the mowers don't disturb the soil.

Blades on the mowers are modified with knuckle hinges that bend upon contact with rocks or hard objects. A round skirt on top of the oscillating mower head protects the mower operator.

The machine works well in established vineyards. But Barra has encountered problems in his 75 acres of interplanted vines. Through trial and error, he's modifying the feeler arms and retractor mechanism to better sense the younger vines by use of eletronic feelers. (The interplanted vineyard is temporarily planted to 4x10 spacing, but old grafted vines will be removed and the young vines will be spaced 8x10. The young interplants range in age from 1-year to 6 years.)

Orleans Hill Winery

A 1990 organic nouveau Zinfandel made by Orleans Hill Winery in Yolo County, CA, won a gold medal at the 1991 California State Fair. Because the Bureau of Alcohol, Tobacco, & Firearms (BATF) analysis indicated zero ppm SO_2, winemaker Jim Lapsley deleted sulfite warning labels on the 640-case bottling.

Praised by wine writers, Lapsley's whole-cluster, carbonic maceration, organic Zinfandel has more 'guts' than most Beaujolais wines, something Lapsley believes will help it age better. He attributes this to several factors. One is old equipment, especially a Vaslin plate press and destemmer/crusher, which roughs up the grapes more than newer state-of-the-art equipment. Also the decision to leave whole clusters in the tank for 11 days, rather than seven days, like most nouveau winemakers.

In making the wine, Lapsley thought he could minimize potential microbial spoilage and wine oxidation by using sound, clean, cool grapes, a pure yeast culture, modern refrigeration techniques, and stainless steel equipment. These, coupled with extreme attention to sanitation, and the carbonic maceration method, would produce a fruity, light Zinfandel free of the off-colors and aldehydic tastes often found in no-SO_2 organic wines.

"I was walking a winemaking tightrope," Lapsley says. "I wanted to have the best of both worlds. I hoped for a wine with an anti-oxidant substrate in phenolics, but a low enough level of bitter tannins that the wine could be sterile-filtered and enjoyed while it was young."

Lapsley began his winemaking experiment with 10 tons of CCOF organic Zinfandel grapes grown at Concordia Vineyard in Clements, San Joaquin County. He accepted only fully colored, large clusters picked early in the morning at 21.8° Brix. They were transported to the winery in Woodland by early afternoon in ½-ton bins. He did not measure pH or sugar/acid ratios.

Two tons of grapes were destemmed and crushed, and the must was pumped into a stainless steel, variable-top tank that had been cleaned thoroughly. Four pounds of rehydrated Epernay II yeast were added and the remaining eight tons of whole-cluster grapes were pitchforked on top of the must, filling the tank approximately half-way.

The tank lid was lowered to 12 inches above the clusters and the tank lid gasket inflated. The tank was sparged with CO_2 and the tank temperature control set to 75°F. Eleven days later, the free run juice was drained into a separate tank. The whole clusters were pitchforked out of the tank and run through the destemmer/crusher, and the grapes were pressed.

Next, the variable top fermenter was steam-cleaned, and wine from the whole-cluster fermentation (which registered 3-4° Brix) was combined with the free run wine (which registered 0°Brix). The tank lid was lowered to six inches above the liquid and the headspace gassed with CO_2.

Four days later, the wine was at -1.5° Brix. With all fermentable sugar gone, the tank lid was lowered to rest directly on the wine. With the gasket inflated and refrigeration set to 50°F, Lapsley let the wine settle for 10 days. Even without fining agents, it fell brilliantly clear. Lapsley racked the wine, gave it a rough DE filtration, and pumped the wine into a second stainless steel tank under a CO_2 blanket. The original fermentation tank was steam-cleaned, a blanket of CO_2 gas added, and the wine pumped through a tight DE filtration back into the original tank. One week later, the wine was bottled using sterile filtration. The wine was less than six weeks old.

Jim Lapsley empties fermenter

Lapsley reported only two minor problems. One is that the wine is less forgiving of mishandling than traditionally-made wines and it deteriorates quickly when subjected to extreme heat. "You can't put it in your car, lock the doors, and walk away for a few hours on a hot day. But then you can't do that with any wine," jokes Lapsley.

The second problem resulted from the Big Freeze in the winter of 1990/1991. All the nouveau organic Zinfandel in Lapsley's unheated warehouse threw tartrates. This hasn't been a sales problem, however, since he's aiming at the organic market, where customers are accustomed to minimal processing. Nevertheless, Lapsley cold-stabilized all of his no-SO_2 organic Zinfandel wines in 1991.

Lapsley intends to expand the no-SO_2 program. Besides the whole-cluster

nouveau organic Zinfandel, he bottled a small amount of experimental no-SO_2 Sauvignon Blanc and white Zinfandel.

"I made all of the wines, including the whites, without SO_2 during fermentation," Lapsley says. "I added 20 ppm SO_2 in January at bottling. But I left it out of the experimental batches bottled in November. I expect those experimental wines will brown, but I want to see how long it will take."

Las Montanas Winery

Las Montanas owner/winemaker Aleta Apgar is well-known for premium, no-SO_2 wines. With 14 years of experience, she may be one of the most knowledgeable no-SO_2 winemakers in America.

Apgar uses only Mayacamas Mountain Cabernet Sauvignon and Zinfandel from very old, unirrigated vineyards. She believes the pigments, materials, and phenolics in red wines act as anti-oxidants and tend to minimize the need for SO_2 addition. She does not think it is possible to make quality white wines without adding SO_2.

Beginning with harvest, Apgar follows certain practices designed to minimize problems generally corrected with chemical additives, especially SO_2. Each harvest, picking is based on appearance of the vine, defoliation, color raising, or dehydration, ripeness of peduncle, etc. For example, she picks grapes around 21° Brix, with 0.8 to 1.0 acid and 3.3 to 3.5 pH. "The higher the acid levels, the less hospitable the juice is to spoilage organisms," she says.

High acid levels are also necessary because Apgar harvests the crop herself. Usually it takes three weeks to finish. "During the first half of harvest the grapes will have a high-acid/low-sugar ratio," she says. "But by the end, the sugar will be up, and the acid down. So it all balances out."

Small-bin fermentation in 1-ton lots also minimizes problems. The small bins remain relatively cool (below 75°F), Apgar reports, and are another reason for not requiring SO_2 addition. They also allow her to punch-down the cap three times/day during fermentation.

Apgar tops each of 30 barrels every two weeks. This minimizes oxidation and potential microbial spoilage and eliminates the need for SO_2 addition.

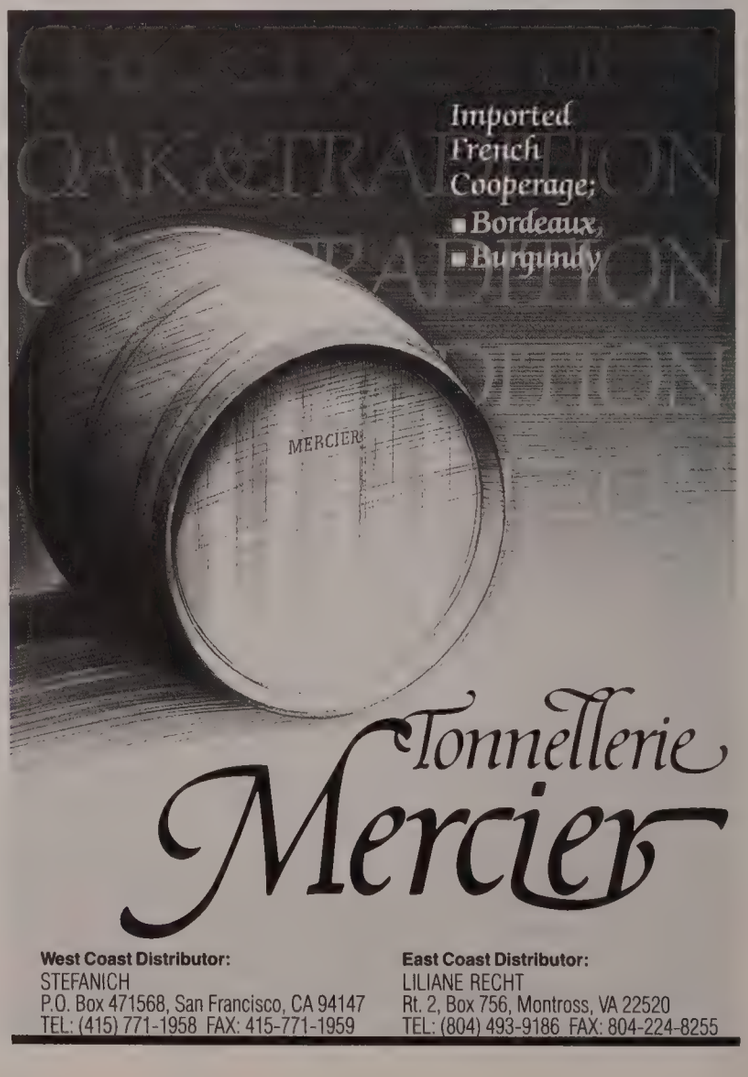
"With a small winery, you can do these things," Apgar says. "But if you're making thousands of gallons, you can't afford to take a chance on a big tank going bad. So you add SO_2 to stop almost anything."

Barrel care also is central to Apgar's no-SO_2 program. Barrels are shaved every couple of years, but sulfur sticks are not used for sterilization.

"Basically I avoid SO_2 by never having the barrels empty," she says. "I try to empty them for bottling two weeks before harvest. Then I rinse them with water, drain them, and refill them every other day until crush."

Since 1977, when she began making wine with no SO_2 addition, Apgar has encountered only two problems. A heat wave caused her 1983 vintage to re-ferment in the bottle, something she says she could have prevented with more sophisticated testing procedures and equipment. A rainy 1989 harvest season forced her to pick the crop late, with extremely low acid. She believes this caused minor browning of the wines.

"With chemical-free, organic wines you do the best you can with the crop you've got," Apgar explains. "You can't compensate as well for a bad vintage. You follow a different philosophy from large wineries, where you add whatever is necessary to always make a good, standard wine acceptable to the widest audience." ■



Surveying plastic heat-shrink capsule options

By David Metz & Ben Valentino

Like it or not, tin/lead capsules are on the way out; we all will miss them. Putting the spinner away for the last time, imagine some ancient English wine merchant, dutifully capsuling the Claret destined for the dank cellars of some Gothic-appearing English manor house. All to prevent the cellar mice from eating the cork and spoiling his lordship's wine.

Today, the capsule's main purpose is cosmetic, and provides pilfer-proofing. Who knows? There still may be a *few* mice around in our cellars, but appearance remains the main criterion for a capsule. The question is, what is the best tin/lead replacement? How are these capsules made? How are they applied? What problems can occur and how are they overcome?

Capsule manufacturers actively are seeking new capsule technology and improving old ones. One option is the plastic heat-shrink capsule. Popular for years on low-cost wines, it is now showing a premium side as well. Other capsule alternatives include aluminum, composite, and tin. For the time being, however, it looks like heat-shrinks are a good option for moderate-priced wines.

There are four types of plastic heat-shrink capsules: PVC, PET, Polystyrene, and Oriented Poly-propylene. Heat-shrink capsules may be produced with gloss, metallic, or non-metallic matte finish.

Much of the interest in heat-shrink capsules centers upon the metallic finish types. Recently, three bottles of identical red wine were placed about three feet from several winemakers. One bottle had a metallic burgundy tin/lead foil and the other two had metallic finished PVC capsules.

From their seats, none of the winemakers could tell the capsules apart! Even at arm-length, the differences were slight. The only sure give-away was the seam and peel tab. If desired, heat-shrink capsules can be ordered without peel tabs, so they look even more like tin/lead.

Metallic-finish capsules differ only in the plastic used and how it is dyed. The plastic is dyed bright silver on its backing. Then a matte finish dye of the proper color is applied on the exterior. It is the silver dye layer that gives the capsule its metallic finish. With the exception of the added dyeing step, all other processes are the same.

Manufacturing heat-shrink capsules

Ben Valentino recently visited Carcano Aluna of Italy to observe the heat-shrink capsule manufacturing process. Carcano is a highly integrated facility, combining both the processing of aluminum and plastic from raw stock to finished capsules.

All machines at Carcano are custom-designed and built in-house. Thus most of their manufacturing technology is proprietary. PVC plastic is received in large rolls as clear stock. The first step is the thermal dying process. Heat is used to assist in the impregnation of the dye into the plastic. The dye is applied in several steps to produce the deep colors and desired degree of glossiness, and then dried.

After drying, the plastic is precision-slit into sheets. The width of each sheet determines the skirt length of the capsule. If a custom imprinted capsule is desired, a typographic, or offset, or rotagravure cylinder applies the decoration.

The finished rolls of dyed and imprinted plastic are transferred to the forming machine. Here the sheet plastic is cut and spun onto hardened steel mandrels. This portion of the process must be held to very high tolerance. Once the plastic is cut, it is then spun onto the hardened steel mandrel, where adhesive is applied to the overlapping seam. At the same time, the top disk is also glued onto the capsule body.

The top disk is made of aluminum, PVC, or paper. The disk may be custom-embossed or custom-printed per customer order.

Once the capsule is formed into one unit, a star wheel perforates a line around the upper body of the capsule. Compressed air then shoots the capsule off the mandrel into the hopper of the packing machine. The capsules are packed in sticks of 50 (counted by an electronic eye) and then 200 sticks are packed in a case, for a total of 10,000 capsules per case. A case is the normal unit of sale.

The important point is that capsule manufacturing is a highly automated process. The production machinery is very adaptable and custom sizes and designs are affordable. The winery considering heat-shrinks should use this opportunity to enhance package design by selecting custom heat-shrink capsules.

Converting to heat-shrink capsules

Conversion to heat-shrink capsules offers an opportunity to reduce bottling line labor. Heat-shrinks may perform well with automatic dispensers. Modern dispensers are air-operated and controlled by a photo-electric system.

Many of the dispensers can check to be sure a cork is in place. No cork, no capsule! Then the capsule is blown off the stick by two tiny jets of air, into a receiving cup, and onto the neck of the bottle. The dispensers are available in a variety of price ranges and sizes.

Heat-shrink capsules are shrunk either by a 'pot' style oven or by a continuous tunnel. Manual operations and slower-speed lines use the intermittent-motion oven. The oven is a simple cylindrical device about the size of a five-pound coffee can. Inside is a heating element and a weighted ceramic plunger. The plunger holds the aluminum disk on the top of the capsule in place to prevent separation while shrinking.

A thermostat outside the oven controls shrinking temperature. For manual use, the oven is mounted on a stand and looks like a bench-top drill press. The bottle is placed on a small platform on the shrinker, and a lever is quickly pulled and released. This lifts the bottle neck into the oven, the capsule shrinks and the bottle is removed. The shrinking is almost instant!

This same type of oven is mounted on automatic machines in place of pre-existing foil spinners. Both foil spinners and ovens have the same bolt pattern so conversion is very easy. Both units operate on 220 volts single-phase.

Solving heat-shrink capsule problems

Let's discuss some solutions to heat-shrink capsule problems.

PROBLEM: Capsule does not shrink down tight.

SOLUTION: 1. Higher heat or more time is required.

2. The capsule is too large in diameter.

PROBLEM: Capsule skirt is lumpy, not smooth and uniform.

SOLUTION: Temperature too low, line speed too high, or not enough heat **directed** at base of capsule.

PROBLEM: Top disk is off-center after shrinking.

SOLUTION: Normally this happens only with pot-type ovens that are mounted on a vertically traveling arm. Prior to the bottling run, with the oven cold, adjust the machine-timing (that is starwheel or feed worm) so the bottle is perfectly centered in the throat of the oven. If the bottle enters the oven off-center or the bottle wobbles while the oven lowers over it, the disk will come out off-center.

PROBLEM: Overlapping side seam on capsule bubbles up.

SOLUTION: Heat too high or dwell time too long. Speed up line or reduce temperature.

PROBLEM: Capsule burns or seam splits open.

SOLUTION: 1.Heat too high. Adjust thermostat and allow time to cool.

2. Capsule is of poor quality, seam not properly glued.

PROBLEM: Top disk pops up from body of capsule.

SOLUTION: All heat-shrinks can do this if a positive pressure is not applied during the heating (shrinking) process or if excessive heat is applied.

1. Use a high-quality capsule that resists this problem.

2. Oven design: Pot-type ovens have a weighted plunger inside that pushes the disk back down as it leaves the pot. There are few problems with them.

Heat tunnels present a somewhat different set of problems. If the tunnel is mounted just before the labeling machine, and the labeler is a rotary type with centering bells, then the bells will push the disks back down until they cool. What comes out of the labeler will be perfect!

The tunnel also can be equipped with rollers to hold the disks down as the capsule shrinks. Consult your equipment supplier about this.

3. Shrinking can be done after labeling. When the bottles are placed back into the carton, the disks will be pushed back down.

PROBLEM: Top disk has bare aluminum showing where color once was.

SOLUTION: Certain colors scrape off more easily than others. This problem exists mostly in pot-type ovens where the ceramic plunger tip picks off small amounts of the dye off the top disk. The best solution is to polish the bottom surface of the plunger. Any roughness on the bottom seems to make the problem much worse.

PROBLEM: Upper third of overlapping side-seam bubbles, bottom portion has shrunk smooth.

SOLUTION: 1. Temperature may be too high.

2. Capsule may be in oven or tunnel too long. Raise the oven tunnel so the capsule does not travel so deeply into it if you cannot increase the line speed.

PROBLEM: My 55mm-long capsules shrink fine, but the bottom of 60mm capsules do not.

SOLUTION: There is not enough heat at the base of the capsule to complete the shrink.

1. Increase tunnel heat.

2. If greater heat causes problems, add deflectors to tunnel skirts to direct more heat downward towards the skirt.

PROBLEM: Silver or other color ink is left on the neck of the bottle after the capsule is removed.

SOLUTION: Change to a better quality capsule. The problem is caused by separation of the silver inner dye layer on metallic-finish capsules. Poor bonding of this dye layer can cause it to separate after the capsule has been applied to the bottle.

PROBLEM: The heat from the tunnel cracked the necks off a case of wine when the line stopped! The next time it stopped, I pulled the bottles out, they were okay, but the plastic guides for the conveyor chain melted!

SOLUTION: You will not be the first winery to have this happen.

1. Purchase a tunnel lifter from your equipment supplier. This device uses a photo-electric cell to detect when the line stops. An air cylinder then lifts the tunnel to a height where the heat will not damage either the bottles or conveyor.

2. Keep alert! Have a tent-shaped piece of sheet-metal near the tunnel. When the line stops, shove the bottles out of the way and place the metal shield over the conveyor rails to deflect the heat.

Remember, shutting off the tunnel momentarily will affect the temperature setting. Leave the thermostat alone if you are going to start the line again soon.

All these problems result from time and/or temperature. Both line speed and temperature have to be correct. If you cannot adjust one, try the other. Heat distribution is also important. Experiment with the vertical position of both pot-ovens and tunnels.

Please consult your equipment supplier for recommended temperatures or line speeds.

Be careful how you test heat-shrinks. Use a professional oven to get the best possible results. Some people test them using hair dryers, but such dryers are not hot enough. The uneven application of heat from them often gives disappointing results. Buy an industrial dial thermometer to check your oven or tunnel temperature. Get one with a maximum of at least 400°C.

Like everything else in winemaking, heat-shrinking can be a problem if not done properly. But it is an altogether simple, mostly trouble-free process used for many years in packaging. It is one of the best current alternatives to replace tin/lead capsules and will present few problems technically or aesthetically if proper planning is done. ■

David Metz is Marketing Director for Prospero's Equipment Corporation, tel: 800/332-2219.

Ben Valentino is Marketing Director for PISA, Inc., tel: 512/667-1999.

NEW CAPSULE MATERIALS

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APM offers a complete range of capsule materials in the post-lead era. All items are available in stock colors or customized.

Polyethylene — 'Push Overs'®, economical, made in California, easy application, recyclable.

Heat-Shrink — 'Metallika'®, economical, some California production, great colors and graphics.

Polylaminate — medium price, capacity limited, runs on current equipment.

Tinned-lead — cheap stock only available for some markets.

Aluminum — Tinned-lead price, long lead time, good decoration, tough removal, same equipment.

Tin — expensive, long lead time, some stock, good decoration, same equipment, tough removal.

Inquiries to: **APM. Inc.**, 441 Industrial Pkwy, Benicia, CA 94510, tel: 800/487-7555, fax: 707/745-0371.

California Glass Company

Tin capsules are currently the most 'look-alike' capsule to replace tin/lead. They are available at prices which range from $95 to $110 per thousand, depending on degree of decoration.

A word of caution however; to ensure that you are receiving what you pay for, ask the supplier to certify that the capsules contain less than 600 ppm of heavy metals, the current Coalition of North Eastern Governors (CONEG) requirement in all

the New England states for the four metals: lead, chromium, mercury, and cadmium.

The most promising product we have seen emerge is the "POLYLUX," the trade name for a polylaminate-style capsule which can be spun onto a bottle using the same spinner as for a tin capsule. This is constructed by laminating aluminum and a polyethylene-type plastic. It is of two parts, giving a seam from top to bottom and a top which is added after the skirt has been formed. Decoration is by rotogravure printing. Polylux is curently being used by two large wineries with very good results. Cost is in the $40 to $48 per thousand range.

Non-PVC heat-shrink capsules are available in PET and polystyrene. PET has a smaller shrink temperature range than PVC or polystyrene, requiring a more sophisticated heat tunnel. Generally speaking, polystyrene is about 10% and PET about 20% more expensive than PVC which is around $28 per thousand.

Inquiries to: **California Glass Co.**, 155-98th Ave., Oakland, CA 94603, tel: 510/635-7700, fax: 510/635-4288.

Please see our ad, page 56.

Cru Industries

Cru Industries is the first and only American producer of tin alloy capsules for the U.S. wine industry. To better serve the industry's needs, Cru's manufacturing and sales operations are located in Napa, CA. Production began in its 26,000-sq.ft. facility in January, 1990.

Capsules are formed and decorated on Cru's state-of-the-art high-speed line where caps are punched from foil raw material at 120 caps/minute. The capsules are then side-decorated and top embossed at these high speeds with custom-designed German silk screening equipment. In addition, to enable the production of a diversity of sizes, Cru purchased the equipment of the former Betts Company in England.

Capsules are custom manufactured to customer's needs. Decoration includes up to three colors on the side and embossing at two levels with highlighting on the top. Any of the colors can be matched from a sample capsule or from submitted color chips.

Cru, because of its location, offers the opportunity for customers to work face-to-face with factory sales, production, design, coating, and engineering personnel to achieve each winery's design, bottling, and delivery needs.

Inquiries to: **Cru Industries**, 100 Coombs St., Napa, CA 94559-3941, tel: 707/255-5994, fax: 707/255-0972.

Enotech Corporation

Enotech offers from stock, one-color plain unprinted PVC heat-shrink capsules in all desired solid colors and finishes of satin, flor-metallic, matte, or glossy. Delivery within three weeks.

Minimum orders: 6,000 capsules (for satin gold-bronze/8,000 - 50,000 capsules for any other color/finish/length, - 100,000 capsules for custom-imprinted (approximately six weeks).

Samples are available of seamless aluminum-alloy capsules (totally lead-free) and can be ordered with deliveries beginning April-May '92.

Inquiries to: **Enotech Corporation**, P.O. Box 576, Palo Alto, CA 94302, tel: 415/851-2034, fax: 415/851-2040.

Please see our ad on page 22.

Lafitte Cork & Capsule

Lafitte can provide a complete spectrum of alternatives to tin/lead capsules.

The tin capsule is produced from the drawn or punched method of production, achieving a uniform wall thickness the length of the skirt. New equipment allows Lafitte to measure the lead level of incoming materials as well as finished product. All decorating inks are heavy-metal free.

Polylaminate capsules are a 'sandwich' of polyethylene pressure-bonded between two layers of heavy-gauge aluminum. Polylaminate capsules are spinable on existing spinning machines and will accommodate a variety of bottle shapes to minimize inventory required. Minimal changes to spinner rollers may be required, depending upon line speed of the bottling equipment.

PVC heat-shrink capsules are produced at Lafitte's Napa facility from pre-printed film decorated with rotogravure presses at Coliege Metalco in France. Local production of PET-G heat-shrink capsules as a more environmentally-sensitive replacement for PVC will be available soon.

The long-awaited seamless aluminum capsule is in final development, and production began at Bouchage Metallique in France in February, 1992. The aluminum capsule will be available in a variety of thickness, as required. Minimal changes are required to existing spinning machines to handle the aluminum capsule.

Inquiries to: **Lafitte Cork & Capsule**, 908 Enterprise Way, Napa, CA 94558, tel: 707/258-CORK, fax: 707/258-0558.

Please see our ad, page 39.

Latchford Package Company

With tin/lead capsules on their way out, many wineries are now considering heat shrinking thermocaps. Latchford Package Company (AGCC) and W. Schotte & Company can work with your winery to design a custom capsule with a perfect fit. Located in Belgium, W. Schotte markets their capsules world-wide and knows that the capsule is the finishing touch to your fine product.

Latchford's many years experience selling to the wine industry allows for a perfect marriage with Schotte. Call your local Latchford (AGCC) representative and allow them to design and customize a heat-shrinkable thermocap for you.

Inquiries to: **Latchford Packaging Division,** Anchor Glass Container Corporation, 1810 Soscol Ave., Napa, CA 94559, tel: 707/258-6190, or in FL 813/884-0000.

Please see our ad on page 13.

PISA, Inc.

PISA, Inc. is an exclusive importer/distributor of wine and champagne capsules from Italy. We offer four variations of wine and three variations of champagne capsules. These wine capsules are offered: 1) Avanti (PVC) heat-shrink with metal-like finish, 2) Brilliant (PVC) heat-shrink with glossy finish. The above PVC capsules are available with perforation-line or peel tab, and come in standard and custom colors. In addition, PISA can duplicate any desired artwork. 3) 40-micron pure aluminum (requires a pre-pleater), 4) Complex (polyylaminate), can be spun on with or without a pre-pleater.

All the capsules above can be fabricated in diameters from 28.5 to 35.0mm, and in skirt lengths of 35.0 to 60.0mm.

PISA also offers a high-quality line of sparkling wine capsules: 1) Complex (polylaminate), 2) 40-micron (pure aluminum), 3) 30-micron (pure aluminum). Like the wine capsules, PISA sparkling wine capsules can be color-matched to specific custom colors. We also offer a wide assortment of options and finishes to suit customer requirements. For those producing sparkling cider, we can fabricate capsules with smaller diameters, for bottling without corks.

Inquiries to: **PISA, Inc.** Rt. 9, Box 132B, 9702 IH-10 East, Converse, TX 78109-9713, tel: 512/7667-1999, fax: 512/667-1990.

Ramondin, USA, Inc.

Tin capsules — *The top quality choice.*

The tin-lead capsule has always been

preferred by vintners around the world for three main reasons:

1. To protect the cork and the wine from any external attack.
2. Guaranteed inviolability of the product.
3. Package image.

This solid metallic closure still today identifies the finest wines of the world due to the quality perception of the consumer.

Ramondin has been working during the last five years to reproduce the tin-lead capsule in a non-harmful material, without ecological impact and 100% recyclable.

Since June 1990, Ramondin has been providing tin capsules to more than 190 wineries throughout the world. It was these wineries, and the public in general, that confirmed the idea that the tin capsule is the *top quality choice.*

Our tin capsule is the only one-piece metallic closure which performs perfectly on existing dispensing and spinning machines. No pleats, no seams, and free of wrinkles. A tin capsule is the perfect partner for a whole quality package concept which in today's marketing trends is an important part of the wine image.

As a raw material, tin is a natural product that complies with all existing legal regulations and is 100% recyclable.

Ramondin is searching for new technologies to produce better and better quality capsules at affordable prices. Following this objective, our R&D department is continuously interested in developing new ways to reduce production costs using less expensive materials and reaching higher levels of efficiency on the production lines.

Inquiries to: **Ramondin USA, Inc.**, at 707/944-2277.

Please see our ad, page 34.

Scott Laboratories, Inc.

In late 1991, Scott Laboratories introduced RELCAPLUX drawn aluminum capsules. These capsules are designed to be an ecological and economical alternative to tin and tin/lead. These capsules are usable on current machinery with little or no modification.

In addition to the RELCAPLUX, Scott offers numerous other capsule options. Tin capsules provide a direct off-set to tin/lead. Spinnable polylaminate capsules provide an exciting new option. They are less expensive than traditional capsules, but may be run in standard spinners without pre-pleating. Heat-shrink capsules are offered in both PVC and PET. All heat-shrink and polylaminate capsules can be supplied in up to six colors in flor, matte, or glossy finish.

In addition to custom orders, Scott inventories RELCAPLUX, tin, and heat-shrink capsules in a variety of stock colors. Samples are available upon request.

Inquiries to: **Scott Laboratories, Inc.**, 2220 Pine View Way, Petaluma, CA 94955-4559, tel: 707/765-6666, fax: 707/765-6674.

Please see our ad, pages 25, 43.

VKN-Nackenheim

VKN-Nackenheim has produced high-quality metal capsules for many years. In June, 1991, at VINEXPO in Bordeaux, France, VKN-Nackenheim introduced it's new tin capsule, Classic Cap®, which is more than 99.9% tin and complies with U.S. "heavy metals in packaging" acts.

VKN-Nackenheim produces more than 1 million Classic Caps® per day and exports more than 50% of that output to California.

Classic Cap® is distributed by the following authorized agents:

Cork Supply International, Inc.
537-F Stone Rd., Benicia, CA 94510
Tel: 707/746-0353, Fax: 707/746-7471
Latchford Package Company
1810 Soscol Ave., Napa, CA 94559
Tel: 707/258-6190, Fax: 707/258-6194
Pickering Winery Supply
1300 22nd St., San Francisco, CA 94107
Tel: 415/821-2400, Fax: 415/821-0811

Scientific report:

The University of Geisenheim/Rheingau (Germany) has conducted a scientific test about the value of different capsule materials (i.e. plastic, aluminum, tin) as a 'secondary seal' for wine, since 1987.

The results, so far, are remarkable: Wine can evaporate through the cork rapidly if stored at changing temperatures and not sealed by a solid metal capsule without perforation on top.

Inquiries to: **Cork Supply International, Inc.; Latchford Package Company; Pickering Winery Supply; or Vereinigte Kapselfabriken Nackenheim Gmbh,** attn: Heiko Eicholz, Postfach, 6506 Nackenheim, Germany, Tel: 011-49-6135-7120, Fax: 011-49-6135-7142.

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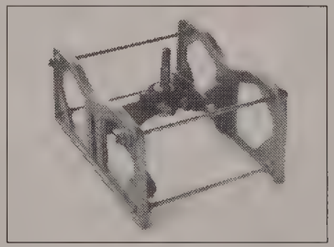

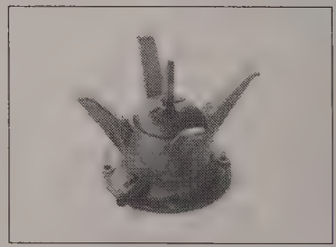

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Gift boxes wrap up sales

By Trudy Kramer,
Kramer Vineyards, Gaston, OR

Packaging wine in gift boxes is an excellent marketing vehicle, a way to showcase your wine and offer convenience to consumers.

Gift boxes especially can be effective during a winery's peak-business times of the year; during the summer tourist season and at year-end holidays. The eye-catching boxes also provide an opportunity for marketing wines to the corporate world.

When we first decided to utilize gift boxes, I contacted an experienced retail wine sales person, who works directly with customers in a large, successful gift shop, for advice as to what makes a good gift box.

According to our gift shop consultant, expensive wines, such as Chardonnays and Pinot Noirs, do not sell in a gift box as well as do Rieslings, Müller-Thurgaus, Gewürztraminers, and berry wines. Ask your retailer(s) what types of gift boxes and wine varietals sell well. A little communication helps tremendously in planning.

Product selection

We have a variety of 12 different wooden or corrugated gift boxes. The majority of our wooden gift boxes sell for $30 to $50 each; corrugated for $15 to $18 each. The least expensive item is a one-bottle wooden box of Riesling for $12.50. The most expensive is a one-bottle wooden box of Pinot Noir with a windsock for $50.

The best-selling boxes are priced in the $12.50 to $20 range. This includes single-wine boxes, two-bottle wine boxes, and boxes pairing wine with food items.

Gift boxes pairing wine with a food item from your area are an excellent idea. For example, caneberries are a major crop in Oregon so it was not hard to find such products to accompany our berry wines.

We have created theme boxes around specific wines: wheatberry caviar with smoked sturgeon, cheese, and lemon-dill mustard in a Chardonnay box; and asparagus spears with hot mustard and a spice in a Gewürztraminer box.

Wine is paired with sweatshirts, t-shirts, and a grape windsock. The shirts, with the Kramer Vineyards logo imprinted, fit easily on one side of a two-bottle box.

An important decision in the gift box sales plan is choosing the type of box to use. Corrugated gift boxes are sturdier and survive better in the store environment than paperboard boxes with glossy exteriors. The glossy ones look nice for a while but eventually get scuffed and dull. Corrugated boxes display well, may be shipped, and can withstand 'rough handling' in the store for some time. Also, they can be opened easily by consumers who may want to look inside.

Corrugated boxes are available in different colors, as are the printing inks. Our boxes are grey in color and cost about $2 each. They are printed with red ink for berry wines and purple ink for grape wines, with the logo positioned for maximum visual impact. The boxes have shipping inserts ($.75 each) for two wine glasses or for single wine bottles.

During the first holiday season in which we introduced gift boxes, there was a standard gift box set-up: two wines, or one wine with two wineglasses, in a corrugated box. Although a major gift chain bought this idea, it did not sell well at the winery.

A classier package, especially for the specialty wines, was needed; a manufacturer of wooden gift boxes, Independence Box Company (IBCO), was contacted.

We have three berry wines in 375mL bottles, a size for which it's difficult to find gift boxes. IBCO created a mock-up of this size for us, and now offers several 375mL boxes. With wood, special-sized boxes in small quantities are not difficult to fabricate.

We have wine glasses that match the label on our berry wine, so a box was created to pair them. The pine boxes cost $3 to $7 depending on size and quantity ordered. Wooden boxes can be decorated with a branded (burned) look or different colors of foil. Red foil was chosen for the berry wine boxes and gold foil for the grape wine boxes.

CAPSULE
ALTERNATIVES

The environmental concerns with the continued use of Tin/Lead capsules has produced a growing demand for environmentally sensitive alternatives. Lafitte can supply the following replacement capsules today:

100% Pure Tin
now in production at Bouchage Metallique in variety of sizes and same Silk Screen decoration capability as conventional Tin/Lead capsule.

PVC • P.E.T. Heat-Shrinkable
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Stuffing it

Just as important as the type of box is the choice of packing/stuffing. Many materials are available to create a nest for your wine and glasses. The stuffing not only protects the glass, but can add or detract from the box's appeal, especially for in-store displays. Our retail 'advisor' pointed out gift boxes that didn't sell, and display had a lot to do with it.

Parchment stuffing is too stiff and difficult to work with, but has great color. For the Christmas holidays, green or red stuffings are great if they look good with your wine labels.

"Sizzle-Pak" is a recycled material produced by Eco Pack, in Kent, WA. Composed of accordion-folded paper strips, it is easy to work with and available in vibrant colors. This is used in the more expensive wooden boxes and shredded tissue is used in the less expensive, corrugated boxes.

Popcorn is another option. Excelsior is an item that many people already use, but did you know it may be colored too? Several retailers disliked tissue paper wrapped around the bottles, especially if a sticker is used on it to enclose the wine inside the box. The sticker inhibits customers from taking a look at the wine without wrecking the whole look of the box interior.

Shipping boxes are another item to consider. Most packaging companies have standard size boxes, usually in bundles of 25. Our gift boxes are shipped in corrugated boxes that are larger than the gift boxes. A bed of styrofoam 'peanuts' is made for the box, the box is put inside, 'peanuts' are stuffed around the outside of the box and on top of it so it packs tight. Our shipper collects recycled peanuts and provides them free. Unprinted newspaper also can be used for cushioning the boxes.

Pricing

A computer spreadsheet lists each box with the wholesale price of the wine, cost of the box, stuffing, and food or other item inside. Those costs are marked up 30%, and rounded to the nearest dollar. Why only a 30% mark-up? We are a new winery and want exposure, and don't want to overprice items. Competitive pricing is one way to put Kramer Vineyards' wine on family dining tables.

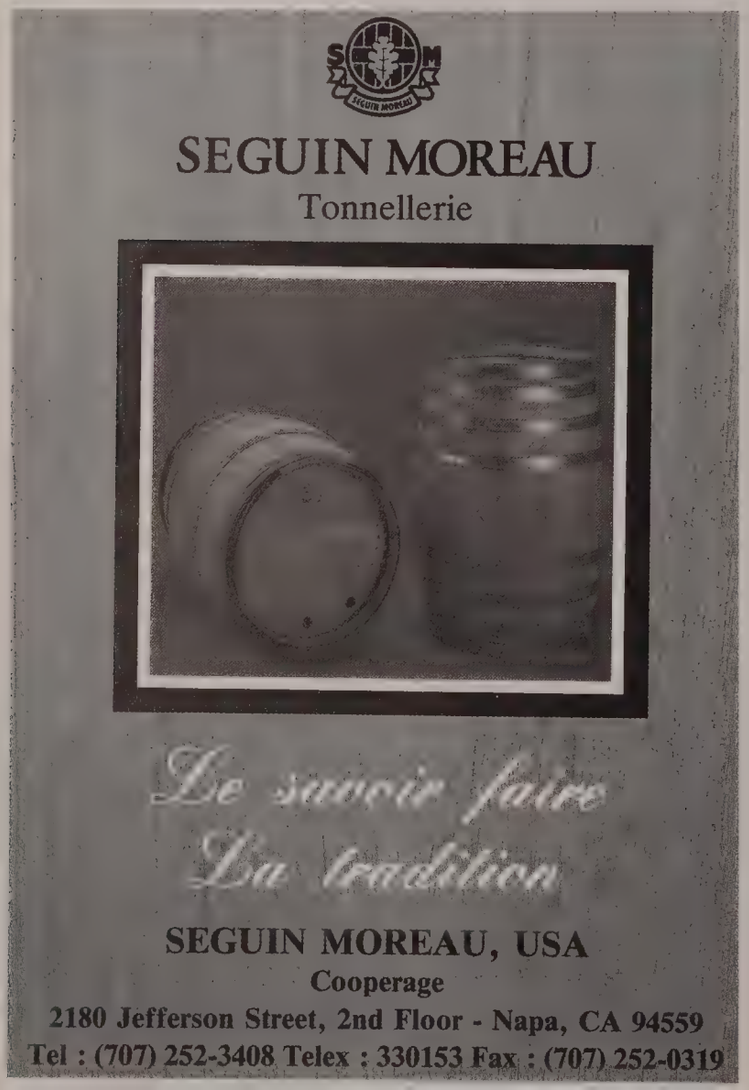
Calculating shipping costs in a simple manner also has been an interesting task. The weights of each item in each box are totaled and the cost of shipping that weight to various points across the U.S. is determined. For most boxes, the price varies only a few dollars from East to West Coast, resulting in an average price of $6 for two-bottle wine boxes and $7 for the heavier three-bottle wine boxes.

In setting a price for each box, the shipping container cost (less than $1 each) is not included, nor is the minimal cost to assemble the boxes for shipping. These are other cost factors to consider.

Corporate clients receive a $5/box discount on $30 wooden boxes. In gift boxes to local corporate customers, our business card is enclosed, with a map of the winery location, to encourage visits.

As a small winery, small amounts are ordered to avoid inventory problems: 50 each of the one-bottle wooden boxes ($4.50 each); 50 each of the two-bottle wooden boxes ($6.50 each); and 100 of the special wooden boxes for one 375mL bottle, two glasses plus food items. Delivery time is two weeks. Other inventory consists of corrugated gift boxes, a dozen or less of each food item, and one bundle of 25 outer boxes for each size gift box.

Ten each of the best-selling boxes and five others are assembled and stuffed. Sizzle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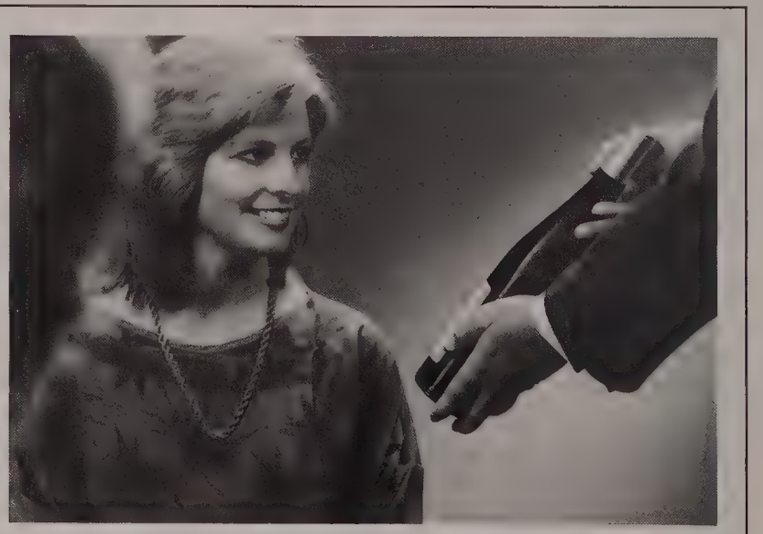

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Your favorite wine. You recognize the label. It is as clean and unscathed as when it traveled from the labeler to the carton. The bottle of wine in a carton can travel up to 3,000 miles. That's rough riding for a delicate label. Gordon Graphics has ULTRA-COTE® label finishing (available in gloss, semi-gloss or matte finish) that will resist the scuffing a label receives before it reaches your customers. At Gordon Graphics we are prepared to deliver your labels—looking good. Call us about your labeling needs. (415) 883-0455.

Gordon Lindstrom

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Pak is put in the one-bottle box to accompany any wine. The stuffing is so messy, it is a good idea to pre-stuff some boxes, to save time if you have to make them up quickly.

Create a brochure

A simple but professional-looking gift box brochure (with order form) shows the various boxes in black-and-white photos. The photos also are used for newspaper advertisements. Printing cost for 2,500 brochures was $300.

The retail brochure is mailed to everyone on our mailing list the week before Thanksgiving. The same brochure, with prices adjusted, is sent to wholesale customers.

When the brochures are mailed, extra order forms are kept by the phone. Gift box orders have surpassed our expectations. Many people have come in and bought gift boxes at the tasting room after receiving the brochure.

Gift boxes court sales

Gift boxes can increase wine sales. Usually the purchaser knows you and is buying the box to impress and inform someone about the quality and selection you offer. This can be a vital part of your marketing plan.

Including brochures in the boxes you ship and adding addresses to your customer list will encourage further sales and exposure. The more people taste your wine, the better! Gift boxes are a great way to expand your customer base by personal recommendation of friends, business associates, and family.

Customers appreciate flexibility and encourage custom box orders. We expect to see an increase in orders because of the many positive comments. ■

Daniel's Workshop

Daniel's Workshop is a full service company specializing in wine industry promotional packaging. Representing a number of diversified manufacturers, they provide the finest in corrugated and chipboard display boxes. From single and two-piece corrugated, to folding and rigid paper boxes, Daniel's Workshop can offer clients a full range of packaging products.

Unlike other packaging companies, Daniel's Workshop is able to produce custom wooden boxes and specialty gift baskets. They compliment many of their packages by providing a wide variety of wine-related materials, including wine glasses, books, specialty items, and the finest in gourmet foods.

The graphics department at Daniel's Workshop can provide samples for marketing presentations and 'pre-sell' applications. Additionally, they are experienced in developing seasonal gift lines and promotional newsletters which utilize the winery's pre-existing mailing list.

Contract packaging is another service available. Daniel's Workshop has the equipment and labor necessary to complete the project at their Napa location, at the winery, or at selected wine storage warehouses. By controlling all aspects of the project from start to finish, Daniel's Workshop can assure on-time delivery and competitive prices.

Daniel's Workshop is a one-stop packaging source created to save you time and effort and produce the finest in specialty packaging.

Inquiries to: **Daniel's Workshop**, PO Box 604, St. Helena, CA 94574, tel: 707/963-3867, fax: 707/944-0359.

Independence Box Co.

Independence Box Co. (IBCO) designs and manufactures wood boxes for the wine

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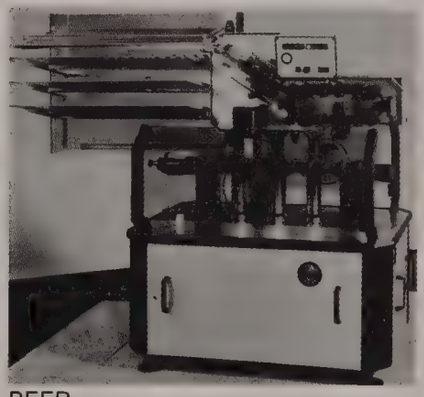
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industry, gourmet foods, display articles, and several different types of promotional type boxes throughout the U.S. and Canada. The boxes are custom made to fit each customer's specific dimension and requirements for their products.

IBCO also does logo work for each customer. Depending on their needs, they can have a plain wood burnt branded logo for a rustic look, or they can choose from several colors of foil that can be branded onto each box or crate. Both have been used in the wine industry, gourmet foods, displays, and promotional boxes.

The IBCO hot stamping machine will stamp logos on wood, plastics, acrylics, leather, and paper products, whether they be flat or round in design.

Lead time for any order is about two to four weeks, depending on the volume of the order. All orders are F.O.B. Independence, OR. IBCO does offer prototype service so customers can see what they will get if they want to make any changes before everything is finalized.

In the early 1900's, almost every product was shipped in wood containers with company logos on the box. A lot of companies today are going back to wood boxes for shipping. They like the nostalgic look for their product and the logos set the box off. This also helps increase sales and catchs the public eye, for a look at yesteryear.

Inquiries to: **Independence Box Co.**, 935 N.Main St., Independence, OR 97351, tel: 503/838-3763, fax: 503/838-3717.

Please see our ad, page 19.

Ruszel Woodworks

Ruszel Woodworks is a manufacturer of wood boxes, display racks, and other wood items. We've been in business for 15 years, and are located in Benicia, CA (in the San Francisco Bay Area). We make a complete line of wood boxes, with sliding and hinged lids, to hold from one to 12 bottles. Boxes include dividers or scalloped inserts to cradle bottles.

Our primary material is pine, though we use other woods, such as redwood and walnut for premium specialty boxes. We have complete silkscreening and branding facilities on site. We specialize in high-quality multi-color prints, screened, and branded. The addition of distinctive graphics to a package is an economical way to make it uniquely yours.

Most boxes are available in quantities of 100 units or more. Lead time required for completion of an order is typically four to six weeks from receipt of camera-ready artwork. We also design and manufacture custom boxes, and we'll gladly assist you in designing a package to fit your needs. One of our favorite packages is a tote with a dowel handle that holds two bottles, and has many secondary uses.

Although wood boxes can be more expensive than cardboard alternatives, customers use wood boxes again and again, after the contents have been consumed. A box with your logo on it is a long-lasting advertisement.

For more information, contact: Julia Allenby, **Ruszel Woodworks, Inc.**, 2980 Bayshore Rd., Benicia, CA 94510, tel: 707/745-6797, fax: 707/745-2793.

Please see our ad, page 27.

Wine Packaging by Naylor

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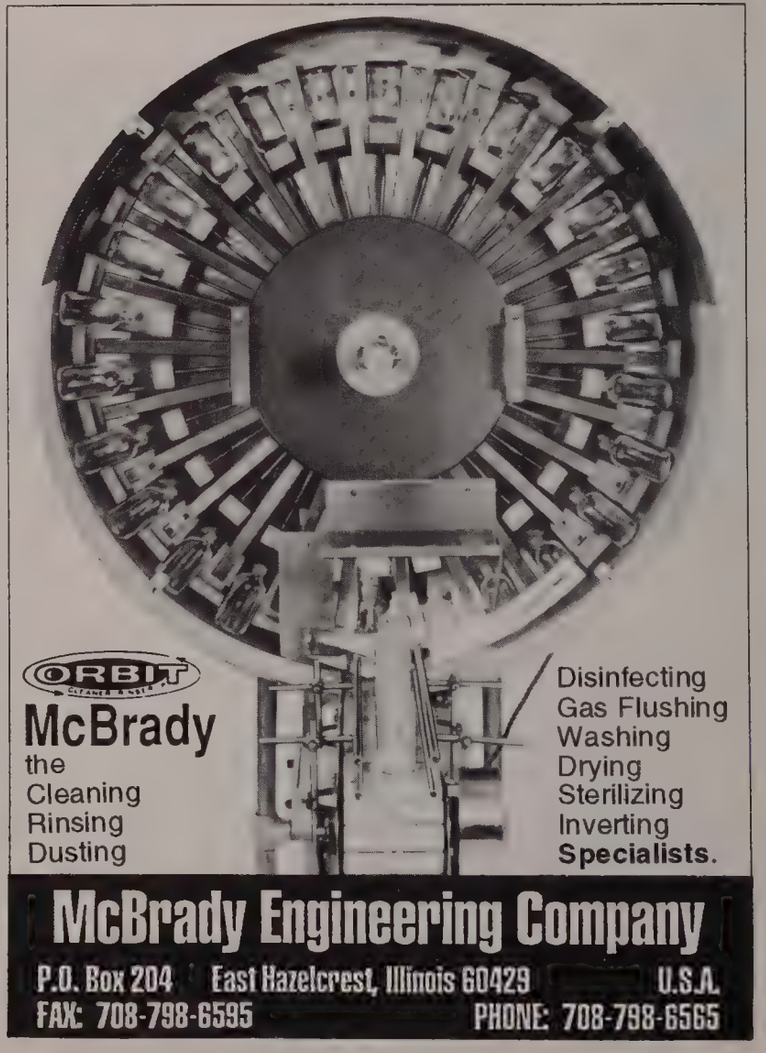

shipper wine boxes available, so we designed our own. Now we can offer you these same boxes at very affordable prices.

Wine packaging by Naylor: is completely biodegradable; has extra sturdy construction for extra protection; and is quick and easy to set up.

Quick delivery is available from stock, so you can order only what you need and not tie-up precious space or money on excess inventory.

The packaging is extremely flexible, providing unlimited merchandising and promotional opportunities. Samples are available at no charge. All retail packages can be custom-designed to your specifications, custom-imprinted with your logo, promotional messages, or seasonal graphics.

UPS-approved shippers in sizes for 1-bottle, 2, 3, 4, 6, and 12-bottles; plus 1, 6, and 12 bottles sizes for champagne; and 3, 6, and 12-bottle shippers for big and tall bottles are available.

Retail gift boxes and carriers are available in 1, 2, 3, 4, and 6-bottle sizes.

Inquiries to: **Wine Packaging by Naylor**, R.D. 3, Box 424, Ebaugh Rd., Stewartstown, PA 17363-9180, tel: 717/993-2431 or 800/292-3370.

Wolf Works

Producers of quality handcrafted pine and oak gift boxes, Wolf Works is located on the central coast of California, next door to York Mountain Winery in San Luis Obispo County. This is a small family-run company that caters to small to medium-sized wineries.

A variety of styles and sizes are available and custom orders are welcomed. The minimum order requirement is low with very competitive prices. The standard boxes have sliding tops with the logo silkscreened in one or more colors.

The company works with the customer to assure that their order fits their needs. Quality workmanship and customer satisfaction are guaranteed.

Wolf Works prices are competitive with the larger box companies and most orders are shipped by UPS, rather than freight lines, which makes the total costs less. Free delivery is offered to central California customers. Call or write Mark Wolf for a free color brochure and price list.

Inquiries to: **Wolf Works**, 7545 York Mountain Rd., Templeton, CA 93465, tel: 805/239-3806, fax: 805/239-0604

Please see our ad, page 46.

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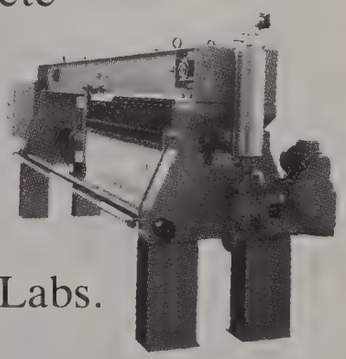

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WINNING PROFITS WITH GUERRILLA MARKETING:

Getting new customers

One of the least understood secrets of successful marketing is the ease with which new customers may be won. As powerful as you may be with that knowledge, your power increases when you comprehend the ***importance*** of gaining new customers.

Although it costs five times more to sell wine to a new customer than to an existing customer — which is why guerrillas market so caringly and consistently to their customers — there is a constant need to increase your customer base.

You have to be willing to turn cartwheels in order to get a potential customer converted into a real, live, paying customer. You have to be willing to break even or even lose money in the quest for new customers because your investment in securing these precious souls will be returned many times.

Once they are customers, they're a source of profits for life because guerrillas know the crucial importance of non-stop customer follow-up. The follow-up increases your profits while decreasing your cost of marketing. Remember, it's only 1/5 the cost of marketing to non-customers.

But let's get back to those non-customers and consider a potent guerrilla tactic to win their business and transfer them from the twilight zone to your customer list, where they belong. The tactic begins with a good guerrilla phrase to emblazon on your memory cells: 'pilot project.'

Often it is difficult to get a potential retailer to agree to carry and display your wines. It is much simpler to get them to agree to buy a mere, single case of wine as a pilot project. Even if a retailer is unhappy with current wine suppliers, they may be reluctant to sever a relationship and purchase your wines — just in case you turn out to be flaky.

But you defuse that reluctance when you assure them that you don't want to get married, and get **all** their business. You only want to become engaged and set up a **pilot project**. That's certainly not asking for much.

A pilot project is very tempting to a retailer because it allows them to see if you're as good and fast-selling as you say you are without going too far out on a limb. Even if the project is a bust, it was only a pilot project. No big deal.

But if the pilot project is a success, then certainly that indicates a larger order should be placed, and eventually, the retailer will sell and display all of your wines. Moral? It's tough to get an okay for a big initial wine order. It is far less tough to get an okay for a single-case purchase.

The concept of aiming for a pilot project may be applied very easily to wine sales. You produce a variety of wines; offer to fill only part of a retailer's needs, not all. Offer to supply them for a test period only, something like six weeks or so.

Ask that, during the pilot project, your wine(s) be given prominent display, proper signage, and ample shelf space. But because it's only a pilot project, ask for this only for a limited time, or with a limited order. Will your wines produce profits for the retailer? This pilot project will tell.

Although guerrillas may set lofty goals, they establish reasonable targets as stepping-stones to their goals. Setting up ten pilot projects is easier than obtaining three large orders. And yet, five of the ten may turn out to be large orders — selling themselves during the pilot projects.

The goal for a winery is first to aim **frequently** rather than aiming **high**. Pilot projects enable you to do this. They're more convincing than any sales rep and more saleable than any new addition to your line. As a marathon starts with but a single step, a long and profitable relationship may start with a simple pilot project.

Savvy retailers, restaurants, and bar owners say 'yes' to offers of pilot projects because they are inexpensive learning and high-potential earning opportunities. Why not do a pilot project on pilot projects? ■

(Jay Conrad Levinson is the author of the international best-seller, "Guerrilla Marketing," other business books, and publishes "The Guerrilla Marketing Newsletter." To order or request a free brochure, in California, call 415/381-8361, outside CA, 800/748-6444.)

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100 points are fine for dog races and math tests

By Patrick Campbell

This is Part I of a two-part critique of wine scoring.

When things can't get worse, they usually get better. It's true of the stock market, recessions, the weather, American-built cars, and life in general. It's also true of wine scoring systems.

The trick, though, is to figure out when you've actually hit bottom. A few people can do it, and they're making good money, but for the rest of us, prophesy remains a lost art.

However, most anyone can figure out when the wine scoring system hits bottom. We're there right now.

There's nothing wrong with taking a number from 50 to 100 and using it as the **sole** descriptor of a wine. Nothing wrong, that is, unless you'd like to find out something about the wine.

The merits of 100 PS

I've thought long and hard about the merits of the so-called "100 Point System" (100 PS) and I've discovered some excellent benefits for the wine collector (a category quite distinct, by the way, from the wine drinkers).

For example, using this simple method of evaluating a wine saves the nuisance of visiting the wine store — just call your wine merchant and have him ship you every 95+ wine he can lay his hands on. This eliminates the tedium of evaluating wines yourself.

In fact, you avoid the bother of having an opinion at all. Why not simply rely on someone else's? It's a particular boon for collectors who aren't handy with a corkscrew, because they'll never need one — they wouldn't drink the wine anyway. The list goes on.

Now having said that, I've considered the merits of the 100 PS for the wine drinker. There are none. However, there are a number of disadvantages, and I'd like to cover some of them. But before I do, let me assure you that I'm not trying to be negative. In Part II, I'll discuss a system that judges wine well.

But first, what don't wine scores alone tell you?

The de-merits of 100 PS

1) The 100 PS is based on the premise that if one wine **seems** to be better than another, it **is**, and it deserves a higher score (even if only one point out of 50 higher). Just like science and sporting events, right?

I'd be inclined to agree if the same precision could be duplicated in another blind tasting, under the same conditions, at another time and place, and by the same panel of judges. It won't, can't, never has been, and never will be. Why?

Because we're not dealing with facts when we judge wines. Scores work fine for dog races, math tests, fruit fly populations, track and field events, white blood cell counts, and quantum mechanics. Not for wine.

Not only do wines appear different to different people under different conditions — they often appear different to the same people under the same conditions at different times. That's because we change and the wine itself changes.

2) The 100 PS doesn't take into account the price of a wine. A $5 wine might be rated an 82 and a $60 wine a 96 (you can bet that any wine over 95 costs close to a day's wages for the average person). But is it a better value for the money? Hard to tell from the points.

3) The 100 PS doesn't describe the wine. Two wines scoring 85 might be totally different in color, flavor, origin, varietal, intensity, and so on. Hard to tell by looking at the points.

4) The 100 PS judges all wines according to the same criteria it has to, and it wouldn't be fair if it didn't; but the usefulness of scores is limited for that very reason. (Admittedly, objective criteria have some value: There are flawed and faulty wines that are so regardless of criteria.)

5) The 100 PS doesn't consider enjoyment of wine. Scores alone don't tell you if a wine is delicious. I've tasted 98-point wines that didn't invite another sip, let alone another glass. They were huge, tannic, opulent, rich, and concentrated. You could stand a knife up in them. They **were** impressive. But they didn't offer much enjoyment, and I wondered if they **ever** would.

On the other hand, I've tasted low-80 wines that were lovely, gave me pleasure, and tasted wonderful. They weren't profound; they were simply delicious, and I could (and did) enjoy glass after glass. Both were **equally great** wines in their own way. One was the Mahler of all wines, the other a Mozart.

6) The 100 PS rates wine by formula. Winemakers are encouraged tacitly to conform their wines to this formula — at least, if they'd like to sell their wine. The formula is no secret: the higher the rating, the fuller, fatter, more concentrated, and more intense the wine. And the oakier it is. Most wine writers are suckers for oak; They can't get enough of it: the oakier the wine, the higher the score. Consequently:

7) The 100 PS encourages homogeneity and discourages regional character, varietal diversity, and winemaker individuality. In contrast, wine writers should encourage heterogeneity — wines that speak of a time and place, of a soil, of a creator with a vision — and reward them accordingly. Who cares, after all, if the wine comes from Italy, France, the U.S., or anywhere else, if it tastes the same?

8) The 100 PS suggests that scores are truth: Why have a guideline when you can have certainty? It takes wine judging out of the realm of informed opinion and into domains traditionally reserved for God and other omniscient beings. That's fine, as we noted above, for the wine collector — he probably won't drink his collection any more than a stamp collector will use his stamps for postage. But for the rest of us, worth-by-proclamation discourages personal judgement. After all, why risk being wrong when it's so easy to be right?

9) The 100 PS treats wine as an artifact, not as a beverage to be enjoyed in the context of food or anything else. Wine consequently becomes an end in itself, not a part of a happy and healthful lifestyle.

10) Above all, the 100 PS doesn't encourage wine drinking. A 95-point wine is too rare, expensive, and sacred to drink; anything else is second-best, so why bother drinking it?

All in all, I'd give the 100 PS a 60, or maybe a 55, no ... make it a 57.5.

The bright lining

If there **is** a bright lining to this story, it's that more experienced wine drinkers are beginning to get fed up with the 100 PS. I know retailers are, because scores demean their noble profes-

sion. After all, why buy wine on the personal recommendation of a merchant with a lifetime of experience when you can resort to infallible authority? Or why hire a wine expert when all you need is a guy to hang numbers on the rack? And I sure as hell know wineries are beginning to get fed up. My peers and I want to make wine that's expressive of the terroir, not of a formula.

I personally know several wine drinkers who've had the temerity once or twice to crack the cork of a 95-point sacred cow and discover they didn't particularly like it. (Lucky for them, they couldn't have gotten more anyway; it's all stashed in the wine collectors' cellars.)

There's also a growing number of wine drinkers who've been enjoying wine for some years. They've begun to trust their own palates and are developing a personal sense of style. (They might, in fact, even feel comfortable basing their preferences on emotional factors — God forbid! — such as memories of wines from a region they've visited and enjoyed or wines that remind them of happy times.) They know what they like and don't like, thank you very much, and don't solicit the patronage of experts.

All said and done, however, there is a need for informed wine criticism. We wine drinkers need and deserve publications that expand our horizons, add to our knowledge, increase our enjoyment, and, yes, separate the wheat from the chaff. We need publications that increase our zeal to **drink** wine. These publications exist. Some even employ variations on the 100 PS, accompanied by text, to great advantage. Part II of this critique will examine some of these more palatable techniques. ■

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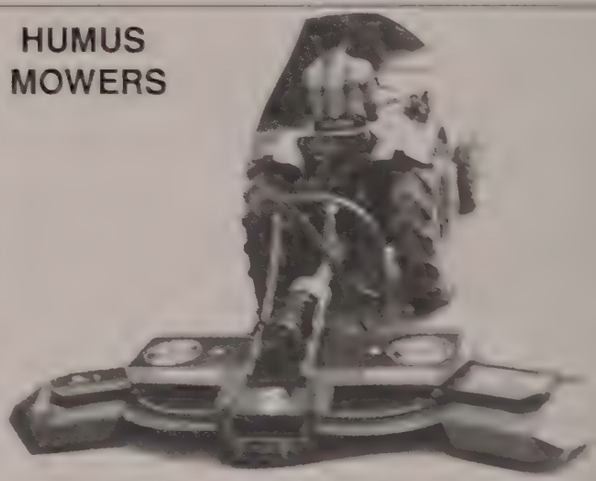

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History of Teleki rootstocks and origin of 5C, SO4

By M. Andrew Walker, Assistant Professor, James A. Wolpert, Extension Viticulturist, Dept. of Viticulture/Enology, UC Davis

The *Vitis berlandieri* x *V. riparia* hybrid rootstocks are one of the most important groups of phylloxera-resistant rootstocks used for winegrape culture. In most viticultural countries their use is increasing. Of this group, the Teleki hybrids are the most widely utilized. Several of these hybrids resulted from grape breeding activity in France during the last half of the 19th century. However, the most widely used *V. berlandieri* x *V. riparia* hybrids were selections originating with Sigmond Teleki.

Origin of the Teleki rootstocks is shrouded in mystery and many of today's misunderstandings regarding them are a result of poor historical records. Despite their popularity, grapegrowers know little about these rootstocks, how they originated or how their numbering system was derived.

We can learn much about the performance of these rootstocks through new field experimental trials at UC Davis, being funded by the American Vineyard Foundation. This report will examine the history of the Teleki rootstocks and some of the confusion that still surrounds them.

An example of this confusion is the recent discovery that the rootstock SO4 was misnamed in California and is correctly Teleki 5C. These two rootstocks and others derived from the Teleki collection of *V. berlandieri* x *V. riparia* hybrids appear very similar, but have unique genetic origins.

Most of this report originated from several key sources, foreign language articles largely unavailable to English-only readers (see References).

In the 1890's, Teleki, a grapegrower near Villany in southwestern Hungary, was preparing to reconstruct his vineyards after phylloxera infestation. Phylloxera had ravaged the vineyards of western Europe for most of the three previous decades. At that time, selections of *Vitis riparia* and *V. rupestris* were being widely used as phylloxera-resistant rootstocks. Other American hybrids such as 'Jacquez' (also known as 'Lenoir', a hybrid of *V. aestivalis*, *V. cinerea*, and *V. vinifera*), 'Clinton' and 'Vialla' (both *V. labrusca* x *V. riparia*) were also being used as rootstocks, but their phylloxera resistance was not as strong. These species and hybrids suffered from lime-induced chlorosis, a common problem on Europe's limestone soils and throughout Teleki's vineyards.

In 1896, Teleki wrote to E. Résseguier, the well-known French nurseryman in Alenya, requesting seeds of *V. berlandieri*. At that time, French viticulturists were unhappy with the performance of *V. riparia* and *V. rupestris* selections, and *V. riparia* x *V. rupestris* hybrids in high lime sites. They had begun experimenting with *V. berlandieri*, an American species from the limestone hills of west Texas.

Résseguier himself must have played a prominent role in the selection of various forms of *V. berlandieri* since the pure species selections 'Résseguier #1' and Résseguier #2' were apparently named after him. Teleki wanted to experiment with *V. berlandieri* rootstocks in his own vineyard in Hungary to test their potential lime tolerance. He was forced to request seed from Résseguier rather than cuttings because the distribution of grapevine cuttings in Europe was prohibited to prevent the spread of the fungal disease Black Rot (*Guignardia bidwellii* Ellis).

During the winter of 1896, Teleki received 10 kg (22 lbs) of seeds from Résseguier and the following spring he germinated about 40,000 seedlings. He expected to see vines which were pure *V. berlandieri* but to his astonishment the vast majority appeared to be hybrids of *V. berlandieri* with other American *Vitis* species; some of the seedlings even appeared to be part *V. vinifera*.

Teleki was never able to establish why the seeds had such a mixture of hybrid types, but nevertheless, he commenced a six-year effort to select and categorize this composite population. We can assume that Teleki was sent seed from many female *V. berlandieri* vines; 10 kg of seed is considerably more than one vine can supply.

Wild grape species such as *V. berlandieri* are dioecious, which means that the vines have either male or female flowers, but not both; cultivated species such as *V. vinifera* are usually hermaphroditic (having complete flowers with both sexes). Unless pollination is carefully controlled, the male

Table 1.
Origin of *Vitis berlandieri* x *V. riparia* rootstocks available in California.

ROOTSTOCK	ORIGIN
Rootstock selections originating from the Teleki seedlings	
SO 4	German selection from Teleki Group 4, prior to 1914, released 1927
8 B	Teleki, 1896
5 A	Teleki, 1896
5 BB	Kober from Teleki 5A = 1902
5 C	A. Teleki, from Teleki 5A (?), 1922
125 AA	Kober from Teleki 5A (?) = 1902
Cosmo 2	Cosmo from 8B, 1931
Cosmo 10	Cosmo from 8B, 1931
Rootstocks originating from controlled crosses	
420 A Mgt	Millardet et de Grasset, 1887
33 EM	Foëx, 1899
34 EM	Foëx, 1899
157-11 C	Couderc, 1889
161-49 C	Couderc, 1888 (*V. riparia* x *V. berlandieri*)
225 Ru	Ruggeri, 1897

parent for a female vine can be any neighboring source of pollen. Teleki must have received seed from female *V. berlandieri* vines residing in a mixed collection of *Vitis* species.

From his 40,000 seedlings Teleki eliminated vines which appeared to have any *V. vinifera* parentage for fear that they would not be sufficiently resistant to phylloxera. He also discarded any vines showing lime-induced chlorosis. From the 'survivors' of this first round of selection he categorized 10 types according to phenotypic (i.e. visual) characteristics, and numbered them from 1 to 10.

The group, which included numbers 1, 2, and 3, appeared to be pure *V. berlandieri*. Although this is what Teleki originally hoped for, he was forced to discard these vines because they were too difficult to propagate. This poor rooting was a characteristic of *V. berlandieri* that plant collectors and breeders discovered, although the cause remains unknown. Group number 10 seemed to be *V. berlandieri* x *V. rupestris* hybrids; these vines were apparently not considered to be useful and are not available today.

The remaining vines appeared to be hybrids of *V. berlandieri* and *V. riparia*. Teleki arranged them into two sub-groups based on their leaf shape. Vines were numbered 4, 5, or 6 if their leaf shape more closely resembled *V. riparia*; or numbered 7, 8, or 9 if their leaf shape was similar to *V. berlandieri*.

Pierre Galet reports that within each subgroup Teleki distinguished numbers, say 4 from 5, by the more or less bronze color of young shoot tips, although it is not entirely clear how this was done. Further, Teleki assigned a letter to his categories: A if the shoots were glabrous (hairless); or B if the shoots were pubescent (hairy).

For example, vines in group 5A had *V. riparia*-like leaves and glabrous shoots while those in 8B had *V. berlandieri*-like leaves and pubescent shoots. Teleki extensively distributed these two sub-groups of phenotypes (4-6 and 7-9) to interested viticulturists.

Teleki approached the selection of *V. berlandieri* rootstock hybrids with his era's limited knowledge of genetics. With the benefit of hindsight, we can clearly see Teleki's mistake. He was not working with cuttings from clones, his plants were seedlings and each was a unique individual. He grouped genetically distinct seedling vines by phenotype and gave them a unifying categorical name.

Their genetic differences may have been as viticulturally insignificant as differences in tendril branching, or sex of the vine. Or these genetic and inherent differences could have been viticulturally important such as differences in their ability to propagate, vigor, pest resistance or adaptability to various soil conditions.

When Teleki distributed cuttings from plants within a group, for example 5A, recipients were likely to receive plants with different genotypes. These vines, all labeled 5A, may have differed in growth rate, mineral uptake, or propagative ability.

In addition to viticultural differences, these vines could also have differed in subtle ampelographic characteristics such as degree of opening of the petiolar sinus or type of serrations on the leaf edge. There is no indication that Teleki separated his seedlings on the basis of flower sex; thus seedlings within a group could also quite conceivably differ in sex. Different people receiving Teleki's '5A' could have been assessing and then ampelographically describing different plants with the same name. This appears to be exactly what happened.

When Italo Cosmo of Italy examined vines from the Teleki grouping 8B, he discovered that the plants were viticulturally different. From that group of 8B vines, he identified and clonally propagated two selections which are in use today, Cosmo 2 and Cosmo 10. Another Italian, Ferrari, also selected and propagated a form of Teleki 8B which today bears his name Teleki 8B selection Ferrari.

According to Helmut Becker, several discrepancies occurred in the naming of 8B selections in Europe. He states that considerable variation exists in the 8B series, some of which differs from Teleki's original description of 8B. The extent of variability can be seen when the selections of Buftea, Dragasani (37 and 57), unnamed material in Germany, and the Cosmo and Ferrari selections are compared. They differ morphologically and viticulturally. If the story was to stop here, with different vines bearing the same name in Europe, it would be confusing enough. However, others added to the quandary. In 1904, Teleki sent 10 "of his better numbers" (as Galet puts it) to Franz Kober, Viticulture Inspector at Klosterneuburg, Austria, near Vienna. Kober applied his own classification system to the vines, as follows:

A—New growth bronze, shoots red and pubescent;

B—New growth bronze, shoots red and glabrous;

C — New growth green, shoots green (or with slight reddening on the side exposed to the sun) and pubescent;

D — New growth green, shoots green with nodes red and glabrous.

According to Galet, Kober assigned a double letter to vines with greater vigor, such as AA, BB, etc., but he also rated them numerically according to vigor, with higher numbers indicating greater vigor.

We are most familiar with Kober's selections 125AA and 5BB. The origin of these two rootstocks remains unclear from available references. One Italian reference states that 125AA was selected by Kober from a Teleki 5A population; other references do not mention 125AA's origin. 5BB is generally believed to have been selected from Teleki's group 5A, although it cannot be ruled out that the '5' refers to Kober's unspecified vigor rating scheme.

Andor Teleki, Sigmond's son, wrote, "Although it can no longer be proved today, all external characteristics of the 5A and 5BB types indicate that they originally derived from the same seedling, hence they are identical..."

Preliminary data from a rootstock trial in Monterey county, CA (L. Bettiga, personal communication), points to a performance difference between 5A and 5BB, indicating that these vines might be genetically different. However, in the UC Davis collections, the two plants appear very similar, and to date, we have been unable to distinguish them biochemically (isozymes from eight enzyme systems have not distinguished them). Our 5A may be the same as the 5BB selection from 5A, or it may be another distinct plant from the 5A grouping. Given what we now know about the Teleki hybrids and given the preliminary results from Monterey, we are keeping these two rootstocks separate, until we have more data.

Teleki 5C resulted from selections done by Alexandre Teleki, Sigmond's other son. D.P. Pongrácz states that it originated from 5A, but other rootstock references do not confirm this. Galet discusses the variability within what is called 5C and listed several different selections, some of which are distinguished on the basis of their sex and others by shoot pubescence and color.

It is not at all clear what the letter C refers to or how it originated, but most references claim there is a resemblance to 5A/5BB, as there should be if 5C was derived from the 5A group. However, our 5A and 5BB both are female and have upturned leaf margins, while 5C in California is a male vine and has a planar leaf margin. As will be discussed next, 5C actually appears more closely related to SO4.

Selections from Teleki's group 4 were introduced to Germany's viticulture station in Oppenheim prior to World War I and by 1927 a clonal selection had been identified as SO4, meaning Selection Oppenheim 4 (H. Becker, personal com-

munication); it is also referred to as Selection Oppenheim 4. This rootstock is sometimes incorrectly written as SO_4.

There are many clones of SO4. Galet states that 78 were recognized in France. Mr. Morisson-Couderc, the French nurseryman, believes that the clonal types of SO4 can be distinguished in terms of their morphology and propagation ability (personal communication — Morrisson-Couderc). Several phenomenon may account for the number of SO4 'clonal' types — SO4 may be remarkably pliable genetically, contaminated with viruses, or have a multiple seedling origin.

SO4 has been incorrectly identified in California; most of the older selections are correctly named 5C (see Walker and Boursiquot). During the summer of 1990, Jean-Michel Boursiquot and the first author reviewed 23 selections of these two rootstocks at UC Davis. After a week of studying shoot tips, tendrils, leaves, shoots and flowers, they were able to categorize the selections as either SO4 or 5C.

During the following fall, proteins (enzymes) of these selections were characterized by differences in their ability to move in an electric field (electrophoresis) and these differences (referred to as isozymes) confirmed the ampelographic data. The problem is resolved, however, the two rootstocks are remarkably similar morphologically. SO4 and 5C are most easily distinguished on the basis of their tendril branching (SO4's tendrils are predominantly three-parted while the majority of 5C's are two-parted) and shoot color (SO4 shoot tips are bronze to reddened, while 5C's are mostly green). However, both characters are variable and overlapping extremes can be found on either rootstock.

As stated at the outset, not all of the *berlandieri* x *riparia* hybrids in use today came from Teleki's seedlings. A number of controlled crosses were made by grape breeders of the late 1800's including 33EM and 34EM of Foëx, 157-11 and 161-49 of Couderc, and 420A of Millardet et de Grasset. Misunderstandings regarding these rootstocks are more easily resolved, because unlike the Teleki hybrids, they originated as single vines form controlled crosses, *i.e.* with known male and female parents.

Experimental field trials are now underway to look at viticultural and enological differences among the *V. berlandieri* x *V. riparia* hybrid rootstocks. We expect to see differences in vigor, fruit set, fruit maturity, berry quality and wine quality. In 1990, 13 of these rootstocks were examined for propagative ability, including rooting, bench-grafting, and field establishment. Preliminary results show differences among rootstocks, and the experiments were repeated in 1991.

We have also been able to distinguish these 13 rootstocks from each other biochemically by observing differences in isozyme banding patterns. A unique feature of these biochemical tests is our ability to utilize pieces of the bark from below the rootstock/scion union as samples. Although the test is time-consuming and relatively expensive, it allows the identity of a rootstock to be determined even if foliage is not present.

The confusion surrounding this group of rootstocks clearly points to the need for an international rootstock reference collection. Ampelographers and specialists in rootstock research must be able to depend on the consistency of a rootstock description and results from experiments conducted on that rootstock at various viticultural centers.

Classic examples of confusion continue to be found and muddy our understanding of how a given rootstock can be expected to perform. If ampelographic experts could agree upon a single best representative of a given rootstock or variety, a reference collection could be established. This collection could be distributed internationally and consensus could be reached on rootstock identity and nomenclature. ■

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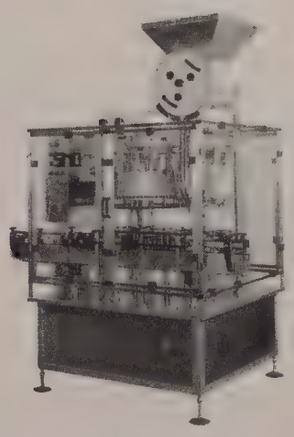

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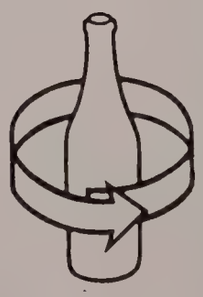

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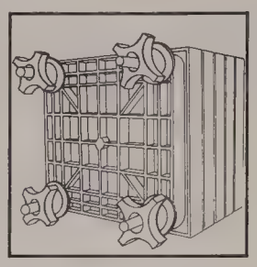

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Sparkling wine corkstopper sanitation improved

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The overall quality of cork is a result of the natural habitat of the oak trees from which it is harvested. The forest of trees has climatic, biological, and chemical factors which may produce non-conformities that will effect the performance of the finished cork stopper when used as a closure for wine.

The final quality of the cork may be determined by the strictness of the cleaning and disinfection operations carried out by the cork producers, in addition to rigorous material selection, proper care and handling in production, transport, and storage.

Traditionally, cork processors have boiled the raw, air-cured corkbark in water as a means of sanitizing the cork, reducing the tannin level, and softening the cork planks so that they can be flattened.

Champcork carefully analyzed traditional processing of corkbark for sparkling wine corkstoppers, specifically the *delgado*, or 'thin' corkbark which might yield the finest quality cork needed for the natural cork disks which 'face' the wine. From this research, it was determined that this practice had several limitations.

Of primary concern was the drying time, after boiling, required to stabilize the corkbark for further processing. In the traditional method, the boiled cork bundles sit for a minimum of three weeks as the moisture level is reduced through evaporation. During this time, the cork offers a favorable environment for the development of microorganisms.

After three years of research, Champcork has developed ABC-1, a corkbark sanitation process to reduce the potential of microbiological contamination during the drying period. ABC-1 is a new process which combines the advantages of the traditional method with a passage through an autoclave and eliminates the negative factors of the previous process.

Figure 3
Microbiological test of cork entering production after traditional processing.

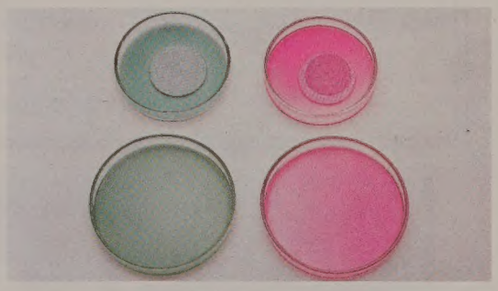

Figure 4
Microbiological test of cork entering production after ABC-1 processing.

Figure 1
ABC-1 cork processing installation.

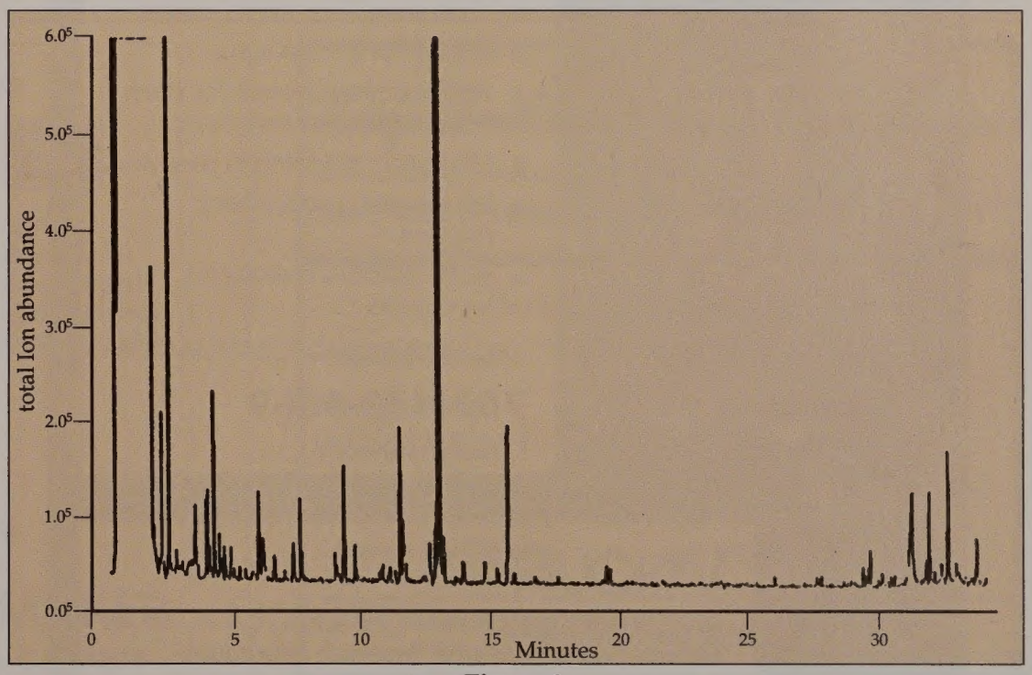

Figure 2
GC-MS chromatogram of the volatiles extracted by the ABC-1 process, trapped in hexane.

Two additional important advantages are achieving levels of microbial contamination very close to zero and that most volatile compounds or the pre-cursor compounds are removed from the cork by the action of the water steam, as shown in Fig. 2.

In the traditional process, the boiling temperature is approximately 98°C (208°F) and the exit moisture is 25 to 30%; in the ABC-1 process, the cork is submitted to the action of water steam under pressure at a temperature of 130°C (266°F) and the exit moisture is 10 to 14%.

In the ABC-1 process, the steam is renewed after each batch of cork, while the water renewal in the traditional process varies between one day and one week.

In various theories on the origin of cork taste, microorganisms (especially molds) always have been associated with this phenomenon. Molds can grow freely on cork, if they are given the ideal conditions: moisture, time, and environment. By reducing the exit moisture, eliminating the hydric stabilization period and, consequently, allowing the cork to enter the production cycle immediately, the ABC-1 process prevents the above-mentioned conditions from occuring.

This is evident on the comparative microbiological analysis performed on cork from both processes entering production (Fig. 3 and 4), in which we have determined the level of microbial contamination through a superficial extraction and an in-depth extraction in a sterile solution.

With collaboration from the University of Aveiro, Cork Technological Center in Portugal, Portugal Institute of the Vine & Wine, and selected customers, comprehensive comparative bottling tests were made on sparkling wine corkstoppers produced from both processes.

The analyses obtained in both processes, for all physical and mechanical characteristics, were very similar. The main parameters considered were: weight, density, dimensions, moisture, torsion resistance, compression resistance and recovery, insertion and extraction force, and recovery after extraction.

However, in the sensory analysis, the sparkling wine cork with two bottom discs processed by ABC-1 revealed itself to be more neutral and cleaner. This is linked to the above mentioned removal of volatile compounds and lower microbial levels.

Another important point is that, contrary to other cork treatment processes, used in the cork industry, the ABC-1 process is unique in that it acts at the very beginning of the cork's transformation cycle, resulting in obvious advantages.

With the introduction of its new, and exclusive ABC-1 process, Champcork has tried to respond to the concerns of the wine and cork industries regarding 'off-flavors.' ■

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